Acquiring Tarifit-Berber by children in the Netherlands and Morocco

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Yahya E-Rramdani

ACQUIRING TARIFIT-BERBER BY CHILDREN IN THE NETHERLANDS AND MOROCCO

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Acquiring Tarifit-Berber by Children in the Netherlands and Morocco

Acquiring Tarifit-Berber by Children in the Netherlands and Morocco

Proefschrift

ter verkrijging van de graad van doctor
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Transcription symbols Tarifit

The transcription system followed in writing Tarifit in this book conforms more or less to the Utrecht convention of 1996 (*Adrar-Nieuwsbrief* 1997/98). The transcription is phonologically based. As such, words pronounced as *[ada:]* (bend down), for example, are written as */adar/*, the ones pronounced as *[zudj]* (swear) are written as */zull/*, and words pronounced as *[rkazi]* (window) written as */lkazi/*. Pharyngealized segments are written with a dot underneath as *ḍ*, *ṣ*, *ṭ*. Geminate segments are written as a sequence of two segements as cc. Dashes are used to segment words into various morphemes, depending on the nature of the task under investigation, as in *i-ḍar-en*, the plural of *ḍar* (foot), or *i-kker*, the perfective of *kker* (stand up), with *i* marking the gender and number of the subject.

Symbols	**Example**	**Gloss**
a	aman	water
b	baba	papa
c	cek	you
d	din	there
ḍ	ḍar	foot
f	fafa	look for
g	gewwed	take by hand
ɣ	aɣrum	bread
h	hwa	go down
ḥ	ḥenna	grandmother
i	ini	say
j	jull	swear
k	kenniw	you (pl)
l	lmeɣrib	Morocco
m	mayemmi	why
n	anu	a well
p	palṭu	overcoat
q	qawit	peanuts
r	ru	cry
ṛ	taṛut	lung
s	sew	drink
ṣ	aṣemmid	cold
t	tini	dates
ṭ	baṭaṭa	potatoes
k	kamyun	loary
u	uccen	wolf
w	wenni	that one
x	xali	uncle
y	yemma	mother
z	anzar	nose
ẓ	anẓar	rain
ɛ	ɛebbez	press on

Preface

I read once that *promoveren is een eenzame zaak* (doing a PhD study is a lonely job), now I realize what this means. And once I was asked whether I was capable of conducting a PhD study me and my computer alone, I said yes at the time full of trust, and today I submit the proof.

If the work is done, it is thanks to many people. First of all, I would like to thank the people who made the data available for this study, namely the schools for their cooperation, the mothers and the children in the Netherlands and Morocco for their availability for interviews and testing, and the data collectors Mina El hajoui, Radia Azghari and Naima Madaya in the Netherlands and Driss Mousaddaq, Rachid Bouzeggou, Mohammed Ziani in Morocco.

Besides my supervisors Guus Extra and Abderrahman El Aissati are thanked for their guidance during this study, and for their dedication to the success of this work. *Het moet een goed boek worden* (it should be a good book) was the sentence Guus Extra often repeated in the last year. For this success, they did more than what they ought to do, each in their own way.

Ad Backus, Jan Jaap de Ruiter and Otman Ait Ouarasse offered some of their time to read parts of this book, and to comment on and improve them. Tim van der Avoird was always available for methodological discussions and advice. Jeanne Kurvers made the effort of translating the summary into Dutch. Carine Zebedee and Anneke Smits took charge of the lay-out of the book, and with success. I am much indebted to all of them.

Colleagues in Babylon are thanked for the *gezelligheid* and for making the sphere pleasant to work in. Anne Vermeer, ex-office neighbour in building B, is thanked also for his readiness to answer my questions when unexpectedly dropping into his office. He previewed also one of the articles I published.

Last but not least, I express my gratitude to my family there in Morocco, especially my mother, who just could not believe that I was still going on with my studies, and my family here in the Netherlands; my wife Hetty for taking some of my family responsibilities over, and my two sons, Amin and Khalil born during this period, who had to miss me many times; not to forget my brother Mohammed, who kindly looked after Amin whenever possible, and my dear friend Jalal Hassani for showing interest in what I was doing.

It was a great learning experience to go through, and it is a great pleasure to finish the job. Yet, *promoveren* is not the end, just the beginning of tasks ahead.

Introduction

During the last decennia, a number of empirical studies have been carried out on language use within the Moroccan community in the Netherlands. These studies have been directed both towards the acquisition of and proficiency in Moroccan Arabic (Nortier, 1989; El Aissati, 1997; Bos, 1997) or towards the learning and teaching of Standard Arabic in the context of Arabic language instruction in elementary school (Driessen, 1990; Van de Wetering, 1990; Saidi, 2001). Very few studies have been conducted with respect to Berber acquisition and proficiency in the Netherlands or Morocco, and especially with respect to younger children. The studies available are De Ruiter (1989) and E-rramdani (1998) for the Netherlands, Boukous (1982) and El Kirat (2000) for Morocco, Bouhjar (1993) and Hassani (2001) for Belgium, and Mehlem (1998) for Germany. A number of other studies were carried out in the Netherlands, focussed on reported language proficiency, language use, language attitudes, language preference and so on of Berberophones among others. After 40 years of migration, and at the time that the Moroccan community is counting its third generation, many questions emerge as to the process of Berber acquisition and status quo of proficiency of children in the Netherlands in comparison with their peers in Morocco.

Rationale of the study

With respect to language acquisition, the focus of the present study, it is worthwhile to take a close look at the status of the language among children growing up in the Netherlands. There is clear evidence that children of minority groups in this country do not reach native-like mastery in the language of their parents or their primary home language. The proficiency of these children seems to deviate from established norms of native speakers in the country of origin. Deviations from such norms implicitly refer to inaccurate or incorrect grammatical output (Boeschoten, 1990). Such deviations can be temporary, related to a slow-down in the order of acquisition, or enduring and permanent as a result of incomplete acquisition.

The first step towards the study of the acquisition of Berber, or more specifically Tarifit among children in the Netherlands, was set up in my Master's thesis (1998) at Tilburg University. That was the trigger to go further in this direction, and to undertake both a broader and deeper investigation. Three factors have been helpful in pursuing my research on this topic. First, the fact that I am myself a native speaker of Tarifit is an advantage for the realisation of the project, especially because the topic has not been explored yet. Second, I was born and grew up in an Arabic dominant city in Morocco, where I happened to acquire both Tarifit and Arabic from birth. This situation is to a certain degree similar to the situation of children growing up in the

Netherlands, acquiring both Tarifit and Dutch. This fact made me aware of the experience these children go through, both cognitively and linguistically. A third factor is my interest in language acquisition in general. An illustrating description of the child's language acquisition phenomenon is the following:

> "Children master the intricacies of their native language before they are able to tie a knot, jump a rope, or draw a decent-looking circle. This achievement is so routine and so expected that most people rarely give it a second thought. But, its significance has not been lost on linguists, who are only too aware of the complexity of language and the mysteries that surround its acquisition." (O'Grady, 1997:1).

Indeed, language acquisition is taken for granted just like the birth of the child itself. Few people wonder how language acquisition is possible. How do human beings within few years after birth become able to speak by themselves without any explicit guidance, transcending both their limited experience and biological limitations? How is it possible that a child is capable of learning any language, or even more than one language easily? Neither linguists nor biologists have afforded definitive answers to these questions yet. It is indeed the miraculous nature of language acquisition which makes the study of this phenomenon challenging.

Overview of the study

The present study consists of 10 chapters. Chapter 1 is devoted to background information. It deals with the status of Berber in Morocco, gives a brief historical background, and discusses the circumstances in which other languages have entered the country. It also provides general information on the language situation at the moment, in terms of the status and use of each of the languages that make up the sociolinguistic profile of Morocco, and provides a summary of the few empirical studies conducted on Berber language acquisition in Morocco. The second part of the chapter is devoted to Berber in the Netherlands, and includes demographic information on the Moroccan community in the Netherlands and the status of its languages. After a review of some empirical studies on Berber in the Netherlands and the adjacent countries Belgium and Germany, the chapter closes with an outline of the study at hand, and a formulation of the research questions to be addressed.

Chapter 2 deals with the issue of conceptualisation and operationalisation. It describes the successive steps involved in the procedure of constructing language proficiency tasks, involving language variation in the home country, the issue of which variety to focus on in this particular study, and taking decisions about the tasks and their contents.

Chapter 3 reports on the pilot study conducted in Morocco and the Netherlands for the validation of the tests. It focusses on the objectives and design of the pilot study, data collection procedure, data analysis, and closes with the modifications brought to the tests before being used in the main study.

Chapter 4 presents socio-biographical information about the children taking part in this study, i.e. grade 1 and 8 children in the Netherlands and Morocco, with a detailed description of the background of the children in the Netherlands with respect to their parents' migration history, their education, birth country, reported language proficiency in Tarifit and Dutch, language choice, language preference, and language attitudes.

Chapters 5 through 9 make up the main body of this study. They present the results in two domains of morphology and syntax. The morphology tasks concern plural formation (Chapter 5), case marking of nouns (Chapter 6), gender and number distinction (Chapter 7), and perfective formation (Chapter 8). Chapter 9 presents the results of word order construction tasks. The chapters follow a similar structure. Each of them opens with a description of the task under investigation and the data collection procedure, followed by the data analysis. Both quantitative and qualitative analyses will be undertaken. Each chapter closes with conclusions and discussion. The results of grade 1 children will be presented first, and those of grade 8 children afterwards.

Chapter 10 is devoted to a general discussion and conclusions. It sums up the findings of this study with respect to each of the domains investigated, and provides answers to the research questions with respect to the acquisition of morphology and word order in Tarifit. There will also be a discussion of the possible link between the acquisition of Tarifit in the Netherlands and the background factors of the children and their parents. Finally, this chapter closes up by exploring some avenues for future research, paving the way for further studies in order to get a deeper insight on the acquisition of Tarifit in a migration context.

CHAPTER 1

The status of Tarifit in Morocco and in the Netherlands

This chapter provides a socio-historical background for the present study. It is made up of four main parts. Part 1.1 is dedicated to the status of Berber in Morocco. It gives first a historical account of the circumstances in which several language varieties have entered the country, followed by a description of the language situation at the moment, and a review of some studies on Berber in Morocco. Part 1.2 is devoted to Berber in the Netherlands, including demographic statistics, the status of Berber in daily life, and studies on Berber in the Netherlands and in neighbouring countries, i.e. Belgium and Germany. Part 1.3 presents a general framework of studies on the acquisition of morphology and syntax, and major theoretical issues in this field. The last part 1.4 presents an overview of the actual study, and its research questions.

1.1 Status of Berber in Morocco

1.1.1 Historical background

Berbers are the first indigenous inhabitants of Northern Africa in general, and Morocco in particular. They lived in an area stretching from Egypt to the Atlantic ocean, and from the Mediterranean coast to the Niger river. The term *Berber* comes from the derogatory Greek word for non-Greeks and was taken into Latin, yielding the English term *Barbarian*. Berbers identify themselves commonly as *Imazighen*, which means *Free men*.

From 600 BC, Berber lands were invaded by various groups, including Carthaginians, Romans, and Vandals. There has never been a homogeneous and organised Berber society or state. Berbers have always been organised under tribal systems (Obdeijn *et al.*, 2000:15). Berber tribes could never unite long enough to rid themselves of their conquerors. As a result, Berber history can only be followed as a history of individual tribes (Montagne & Seddon, 1973).

The turning point in the history of Northern Africa was marked by the arrival of Muslims in the second half of the 7th century. There were apparently few Arabs from the Arab peninsula among the soldiers who conquered Morocco. Most of them were Berbers of the Eastern part of the Maghreb who had become themselves Muslims (Obdeijn *et al.*, 2000:15).

The strongest Arab migration from the East took place in the 12th and the 13th century by nomads of Bani Hilal and Bani Maaqil, chased to the West by dryness in

the East. In the 15th century another influx of refugees arrived from Spain after having been driven away, and settled in cities like Fes, Rabat, Salé, and Tetouan. From then on, the Arabic language and culture gradually became predominant in the plains and the more accessible parts of Northern Africa, while the Berber language and culture survived primarily in relatively inaccessible areas in the Aures in Algeria, Rif, and Atlas mountains in Morocco. Islam spread all over the country without exception.

The 20th century marked another turning point in the history of the region, due to the conquests of France and Spain, starting from the end of the 19th century. In that period, a new life style was introduced in Morocco at the political, social, economic and linguistic levels. French and Spanish became the official languages, each in their own area. The effects of that period are still apparent and influence the daily life in Morocco today.

In the course of the history of Morocco, the Berber dynasties of the Almoravids (1063-1147) and Almohads (1147-1269) were the only tribes of Berber origin to rule the country, besides Andalusia (Spain), Algeria, Tunisia, and Senegal in the south. Berber speakers, who today number more than 15 million, are distributed through Libya, Tunisia, Algeria, Morocco, and Mauritania (Boukous, 1995). The number of Berber speakers has always been a rough estimate, and no official language statistics have ever been collected. Their density increases generally from east to west, but Berber language varieties are still retreating in favour of Arabic as the populations of the present nation-states become gradually homogenized (Montagne & Seddon, 1973).

1.1.2 Language situation in Morocco

The language profile of Morocco is basically made up of four languages, i.e. Berber, Arabic, French, and Spanish. Berber is spoken in three main zones, with three subsequent language varieties. Within Arabic, a distinction is made between Moroccan Arabic and Standard or literary Arabic. French and Spanish are former colonial languages. French still has the status of the first foreign language in the country, enjoying a high prestige in the intellectual and political arena.

Berber is one of the two major mother tongues in Morocco. It comprises three main regional varieties, known as Tarifit in the Northeast of Morocco, Tamazight in the Middle Atlas mountains, and Tashelhit in the High Atlas, Anti-Atlas mountains, and the Sous-valley. Divergence among these varieties occurs primarily at the level of phonology and lexicon (Ennaji, 1985:8-9), which happens to make mutual intelligibility hardly possible. Moreover, each of these three Berber varieties is made up of a wide spectrum of local sub-varieties which are relatively mutually comprehensible. The issue of language variation and how this affects the present study will be taken up in Chapter 3, where the choice of a particular language variety is motivated. All in all, Berber varieties function primarily as oral mediums of communication, although they have been gaining territory at the level of written media (cf. El Aissati & E-rramdani, 2001).

At the official level, two events are worth mentioning. The first event concerns the declaration by the late King Hassan the Second on the 21st of August 1994, when he announced that Berber will be given a place at school. The introduction of Berber at school started in the school year 2002/2003. The other important event concerns the decision of the present king Mohammed 6th in October 2001 on the creation of the Royal Institute for the Amazigh (Berber) Culture. Among the duties of this institute is the implementation of mother tongue literacy in cooperation with the concerned ministries. The importance of these decisions lies also in the implications behind them, in the sense that they are conceived as an official recognition of Berber at the national level as one of the existing languages of the country, and meant to get Berber out of the shadow of marginalisation.

Moroccan Arabic is the mother tongue of non-Berber speakers, as well as a large number of Berber-Arabic bilinguals. This Arabic dialect comprises a set of regional sub-dialects which vary slightly between each other, without affecting their mutually intelligibility. During the last decade, a drastic development occurred in Moroccan Arabic, mainly due to mass media and school. This development led to the emergence of what some linguists call *Middle Moroccan Arabic* (Youssi, 1992). This variety is a mixture of Moroccan Arabic and Standard Arabic. The phonology belongs primarily to Moroccan Arabic while the lexicon is that of Standard Arabic. Morphology is shared somehow between the two.

Standard Arabic and French are taught at school, starting from the first and third grades of primary school, respectively. These two languages are the dominant languages par excellence in formal daily life, and functions are shared between them. Spanish was the official language in the North and South of Morocco during the colonization period. In the two northern enclaves of Mellila and Ceuta, Spanish is still the official language. Due to this historical background and the proximity of the north of Morocco to Spain, Spanish remains a vital communicative medium in the Rif region (Hassani, 1995:10).

1.1.3 Research on Berber acquisition in Morocco

As to empirical studies conducted on children's use of Berber in Morocco, there are two studies to mention in this respect. Boukous (1982) investigated the language proficiency of 8 bilingual Berberophone children (Tashelhit-Berber/Moroccan-Arabic) of parents of Berber origin, living in the cities of Agadir (4), Inezgane (2), and Tiznit (2). Their language proficiency was compared to monolingual Berberophone children (5), living in the rural areas of Taddart and Biougra, also in the Southern parts. The children, aged between 5 and 13 years, were tested in their lexical repertoire with respect to reference to colours, body parts, animals, and kinship, and in their grammatical proficiency with respect to personal pronouns, perfective, imperfective, and imperative. The overall outcomes are presented in Table 1.1.

Table 1.1: Correct scores (%) of bilingual and monolingual Berberophone children in Morocco (adapted from Boukous, 1982)

Domains	Reference tasks	Bilingual children	Monolingual children
Lexicon	colours	4	95
	body parts	66	100
	animals	41	70
	kinship	80	100
Grammar	personal pronouns	55	80
	perfective	44	80
	imperfective	44	80
	imperative	62	80

The results show that monolingual Tashelhit speaking children performed better than bilingual ones on all tasks. Lower proficiency of the bilingual children can be seen at all levels. Shortcomings in lexical knowledge were compensated by recourse to strategies as generalisation, paraphrasing, and borrowing from Arabic. At the level of personal pronouns, the children happened to neutralize the difference between feminine and masculine in the plural form, in favour of masculine forms. For verb conjugation, there were temporal confusions on the part of the bilinguals, who used the imperfective instead of the perfective or vice versa. There was also a neutralization of gender and number, by using masculine forms instead of feminine ones, and singular forms instead of plural ones.

At the syntactic level, the bilingual speakers had problems with the construct form, which was neutralised by using the free form as in *lqism n tarbat* (the girl's classroom) where *tarbat* (the girl) is used instead of the correct construct form *terbat*.

Boukous (1982) concluded that the bilingual informants in the cities did not have a perfect command of Berber. This was also clear from their communicative strategies, marked by the use of other languages (Moroccan Arabic and French) when speaking Berber, a phenomenon that he called *transitional pluralism*.

The second empirical study on the acquisition of Berber has been conducted by El Kirat (2001). This study investigated the status of Beni Iznassen Berber, or Iznassni Berber, a variety spoken around Berkane in the Northeast of Morocco. Two groups were involved: one group living in the urban area, and the other in the rural area, split over two main generations, i.e. an old generation (16 informants) and a young generation (25 informants). The age of the informants varied between 40 and 99 years for the old generation, and between 7 and 39 years for the young one. Data collection was done by means of participant observations, free conversations, and interviews.

El Kirat focussed on the effect of language contact in Morocco on Iznassni Berber. The investigation concerned 3 areas. The first area was concerned with language attitudes among the Iznassni community. At this respect, there were more positive attitudes towards Arabic than towards their Berber variety. Negative attitudes towards Berber emerged, and some even considered Berber as a hindrance for school. All age

groups shared these attitudes, irrespective of their age or rural/urban background. Moreover, the youngest groups in both areas denied their Berber origin, and viewed it as a stigma. The second area of investigation dealt with language use within the community. The study revealed that the domains of use of Berber had been completely submerged by Moroccan Arabic in the urban area in all domains. Berber was more dominant among the informants above 40 years and less dominant among the ones under the age of 25, in that only 10% of the latter used the language. This phenomenon of language shift was also witnessed in the rural area, where Berber is the dominant language. Berber was used among adults, but became less spoken with and among speakers under the age of 26. There was a tendency towards the taking over of Moroccan Arabic, being used more and more at home too. Some parents had even decided to stop talking Berber to their children and used Moroccan Arabic instead. The third aspect studied was language proficiency in Iznassni Berber. There was a considerable difference in proficiency among the older and the younger groups. Fluent speakers in the urban area were aged 40 years or older. For the younger ones, the Berber proficiency level varied between those who were relatively able to conduct a conversation though not in a perfect way (aged 26-39), and the ones whose proficiency was limited to a few words and phrases (aged 7-25). The rural groups were bilingual in all age groups. They were fluent in both Berber and Moroccan Arabic, with the exception of the youngest ones (7-25), some of whom had only receptive skills in Berber.

1.2 Status of Berber in the Netherlands

1.2.1 Demography

In 1963, the Netherlands reached an agreement with Morocco for recruiting people to come to work in the country, as a result of the acute needs for workers on the Dutch labour market. This was the starting point of the Moroccan migration. In 2001, there lived more than 260,000 people of Moroccan origin in the Netherlands (Dominigez & Veenman, 2001).

Moroccan migration to the Netherlands has known three influxes. The first influx took place between 1963-1973. Men left Morocco and came to the Netherlands to work for a certain period of time. They were referred to as *guest workers*, and had strong cultural and social contacts with their home country. In 1973, the number of Moroccans in The Netherlands rose to 14,000 (Muus, 1993). The second influx started in 1973, when increasing numbers of workers began to bring their families over to the Netherlands. The stay in the Netherlands seemed to take longer than they had thought at first. This circle migration changed to permanent migration. Family reunion reached its top in 1981 with 10,400 family members brought over from the home country (Muus, 1993). The third influx started in the eighties of the 20th century, and

was mainly generated by marriages. The children of guest workers have meanwhile become adults, and have decided to build up their life further in the Netherlands. Most of them get married with partners from Morocco. This type of migration made up to 10% of the migration balance in the seventies, and 40% in 1992 (De Beer *et al.*, 1996).

During the last decennia, the contribution of the migration factor to the Moroccan population in the Netherlands has become lower, with 7,128 persons in 1989 and 2,041 in 1996. Instead, birth in the Netherlands has become a crucial factor in determining the absolute number of the Moroccan community. The average Moroccan family has more than four members (Van de Heijdt & Harsen, 1996). From January 1990 to January 1992, the number of the first generation rose from 115,000 to 131,000 persons, with an increase of 13%, while that of the second generation, born in the Netherlands, rose from 51,000 to 63,000 persons, with an increase of 25% (Van de Heijdt & Harsen, 1996). In 2000, the number of the second generation reached almost 110,000 persons, with an increase of 42% (Dominigez & Veenman, 2001). Table 1.2 gives a longitudinal and comparative overview of the top-10 immigrant minority groups in the Netherlands, based on the combined birth country of the person, father, and/or mother, according to the Central Bureau of Statistics (2003).

Table 1.2: Top-10 of immigrant minority groups in the Netherlands between 1995-2002, according to birth country of person, father, and/or mother (x 1000) (CBS, 2003)

Country of birth	1995	2000	2001	2002
Turkey	264	309	320	331
Surinam	276	303	309	315
Morocco	219	262	273	284
Antillean Islands	86	107	117	125
Former Yugoslavia	49	67	71	75
Italy	31	34	35	35
Spain	28	30	30	31
China	22	30	32	36
Somalia	17	29	30	29
Hong Kong	17	18	18	18

Table 1.2 shows a strong increase over time among most of the groups, including the Moroccan community.

1.2.2 Berber in the Netherlands

The Central Bureau of Statistics commissioned a study in 1984 among 1,098 Moroccans in the Netherlands to find out about their birth place in Morocco. 60% originated from the North of Morocco, 15% from the South, 10% from the Centre, 8% from the Northeast, and 7% from the area along the Atlantic coast. The people originating from the North of Morocco came mainly from the central and western part, between Nador and El Hoceima (Muus, 1993).

Berber in daily life

Within the Moroccan community at large, Moroccan Arabic is used as a *lingua franca*. This is at least relevant for the first generation. Among people of the second generation, Dutch becomes the *lingua franca* between Arabic and Berber speakers, and even between speakers of the same language. Dutch is increasingly used at home between siblings and, to a lesser extent, between parents and children. All in all, the use of Berber is limited to a small set of informal domains.

Berber in religion

In religious matters, Standard Arabic is prevalent for the Moroccan community in the Netherlands. Prayers take place in Standard Arabic. The Quran is read in its original version in Arabic too, as is the tradition all over the world. Friday sermons are sometimes exceptions in this matter. Normally speaking, the speeches are in Standard Arabic, but they may also be given in Moroccan Arabic, Berber or even Dutch. Because the public attending the prayers are not all Berber speakers, recourse to Standard Arabic and/or Moroccan Arabic is preferred, with explanations sometimes in Tarifit, depending on the imam's proficiency in the language. During the last years, there is also a tendency to use Dutch, due to the emergence of attendants from the second generation. As a result, the status of Berber in this domain is very weak.

Berber in the mass media

The NPS radio for Moroccans broadcasts from Monday through Friday, between 19:45 and 20:30. The first 10 minutes are reserved for news in Tarifit. The rest of the programme is presented in Arabic (Standard and Moroccan Arabic). Still, Tarifit is used from time to time in the course of the programme, mainly during interactions with the audience, which uses Tarifit as language of communication. This choice is made possible by the fact that the programme hosts are also proficient in Tarifit. This is the only domain of use of Berber/Tarifit in the Netherlands in the public media. The NMO (Dutch Muslim Broadcasting service) radio and television broadcasts in Arabic, Turkish, and Dutch. In addition, Moroccans in the Netherlands with a satellite dish can follow the news in Tarifit as well as in other Berber varieties, broadcasted by Moroccan radio and television stations in Rabat. The use of Berber in Moroccan television programmes is very limited, while radio programmes have four hours per day for each of the three major Berber varieties.

Berber in the literature

The last decennia witnessed the emergence of a Berber literature, i.e. novels, plays, stories, and poetry in Tarifit, which are becoming more and more popular. However, there are some problems in the way of spreading this literature, in particular with respect to the writing system. Because Berber has no official writing system, people writing in Berber use different systems, depending on personal preferences. In The

Netherlands and Western Europe in general, the majority of writing in Tarifit or other Berber varieties takes place in a Latin alphabet adapted to accommodate a few additional symbols needed to write Berber.

Besides written literature, theatre productions in Tarifit have become quite popular during the last years. This type of art enjoys more public than the written literature, among other things, due to its oral nature. The actors originate mostly from Morocco, and tour in Europe especially where large Berber communities are found.

In addition, a number of education programs have been developed, like *De Schatkist* (Lâle Uitgeverij, 1996) (the treasure box), translated from Dutch into Tarifit. In the framework of the *Comenius Action II-programme for the European Union*, a curriculum has been developed in Tarifit (next to other languages), consisting of three booklets for children between 4 and 8 years and two ones for pupils aged 12 to 15 years (E-rramdani *et al.*, 1998c, 2000; Benhakia, 2001).

Berber at school

In the Netherlands, children start school at the age of 4. Dutch elementary schooling is made up of 8 grades, divided into three parts. The lower part includes the first two years, the medium part consists of grades 3, 4 and 5, and the higher part of grades 6, 7 and 8. Instruction in the home language for immigrant minority children in Dutch elementary schools was introduced in 1974, referred to at that time as OETC (Education in Own Language and Culture), later on as OET (Education in Own Language since 1987), and most recently as OALT (Education in Allochthonous Living Languages since 1998).

In all contexts, the language taught to Moroccan children has always been Standard Arabic, the official language of Morocco (cf. Saidi, 2001:28-33). The last decennium has witnessed more requests for teaching Tarifit to children whose parents originate from the Rif. Yet, many parents do not seem to support such demands. Most of them are in favour of the teaching of Standard Arabic. They claim that their children can learn Berber at home. The need for the learning and teaching of Standard Arabic is linked to Islam. Those parents want their children to be able to read the Quran, and have access to the official language of Morocco.

However, some change seems to take place in this respect. In the language survey of Extra *et al.* (2001), conducted in The Hague, 12% (of 1,858) of the Moroccan parents expressed their interest in the teaching of Berber to their children at primary school, and 10% of 967 pupils in secondary schools expressed their interest in learning Berber at school. This changing trend is probably due to a generation shift within the Moroccan community itself. People interested in the learning and teaching of Berber may be persons (parents and/or pupils) who belong to the second generation born and/or grown up in the Netherlands.

1.2.3 Research on Berber acquisition in the Netherlands

An earlier study of E-rramdani (1998, 1999) was dedicated to the development of both Tarifit and Dutch in the Netherlands, among Moroccan children of the first three grades in primary school, aged 4-6 years. The study investigated the domains of phonology, lexicon (receptive and productive), syntax and text comprehension. The best scores for all groups were realised in the phonology task for Tarifit, and in the receptive vocabulary task for Dutch. The lowest scores were achieved in syntax in Tarifit, and productive vocabulary in Dutch.

With respect to the performances on the tasks of the two languages, there was a tendency in favour of the tasks in Dutch for the first group (4-year old). Yet, there was no significant difference, with the exception of the text comprehension task, where the grade 1 children scored significantly better in Dutch. The children of grade 2 (5-year old) scored better in Dutch on the two tasks of receptive vocabulary and syntax, while the grade 3 children (6-year old) realised better scores in Dutch on all tasks, with the exception of the task of text comprehension.

With respect to language dominance, the grade 1 children turned out to be balanced bilinguals, while the ones of grade 2 and 3 were dominant in Dutch. The development of the two languages showed two different patterns. Tarifit seemed to develop significantly between the first and the second grade of primary school, and to slow down by the third grade, while for Dutch the opposite pattern occurred.

Reported language choice patterns of the children showed that 85% of them spoke Tarifit with their parents, while the two languages were used equally with siblings. The groups differed finally in their language use with friends in that 66% of grade 1 children spoke Tarifit, while the ones of the two higher grades used Dutch exclusively.

De Ruiter (1989) dedicated part of his study to the proficiency in Tarifit, in a quasi-longitudinal design, among 40 Berberophones in the Netherlands. The study was conducted among four cohorts of informants, aged 7, 11, 14, and 21 years. Part of the study was also designed to test communicative and grammatical proficiency in both Dutch and Tarifit. Data collection was done by means of picture description tasks. Concerning the first topic, the subjects turned out to express themselves better in Dutch than in Tarifit, with the exception of the oldest group. Some of the younger subjects were not at all able to express themselves in Tarifit. As far as grammatical competence in Dutch is concerned, the subjects happened to match to some extent the performance of Dutch native speakers in the reference groups.

In a follow-up study, De Ruiter (1990) compared the proficiency in Tarifit of the group in the Netherlands with Berberophone peers in Morocco (city of Nador). They were 6 in total, aged between 8 and 26 years. Again, a picture description test was used. Data analysis was conducted with respect to lexicon, morphology and syntax.

With respect to the first domain, the group in the Netherlands used less vocabulary (70-97 words) than the reference group (93-132 ones). In morphology, the group in the

Netherlands showed inaccuracies with respect to gender, number, and construct state. In syntax, the analysis focussed on the use of simple versus complex sentences, and the mean length of utterances (MLU). The younger groups of 7 and 11 years in the Netherlands obtained similar results as their peers in Morocco with respect to the use of simple and complex sentences and MLU. The subjects aged 14 showed comparable scores in the use of simple and complex sentences. In the case of MLU, the ones living in the Netherlands performed better. Finally, the oldest group in the Netherlands obtained lower results than the one in Morocco with respect to the use of simple and complex sentences and MLU. In general, the core group in the Netherlands used simple syntactic structures and simple forms compared to the reference group in Morocco, which used more rich and complex sentences.

Based on reports on language use, Tarifit came out as the most chosen language in interaction with the parents for the four groups in the Netherlands. The average choice varied between 74% with the father and 92% with the mother for the group aged 11 years, to 100% with the mother and 94% with the father in the case of the oldest group. With siblings, the choice of Tarifit regressed drastically to 54% in the case of the 11 years old group. The choice of Tarifit was even lower with friends at an average of 23% for the three youngest groups, and 42% for the oldest group.

In the period between 1997 and 2000, a large-scale language survey was conducted by Extra *et al.* (2002) in thirteen municipalities in the Netherlands among children in primary schools (99,460) and secondary schools (39,451) in the age range of 4-17 years. The reported top-20 of home languages other than Dutch is given in Table 1.3.

Table 1.3: Reported top-20 of home languages other than Dutch (source: Extra *et al.*, 2002:52)

Languages (1-10)		Reported frequency	Languages (11-20)		Reported frequency
1	Turkish	8,686	11	Chinese	1,062
2	Arabic	6,755	12	Kurdish	1,052
3	Berber	6,302	13	Somali	692
4	English	5,153	14	Italian	690
5	Hind(ustan)i	5,037	15	Moluccan/Malay	657
6	Papiamentu	1,572	16	Urdu/Pakistani	644
7	French	1,534	17	Portuguese	559
8	German	1,449	18	Serbian/Croat./Bosn.	534
9	Sranan Tongo	1,426	19	Javanese	481
10	Spanish	1,270	20	Farsi	400

The majority (76%) of the children of the Berber group were born in the Netherlands, while most of their parents (88-92%) were born in Morocco. 96% of the children reported to understand Berber and 92% also to speak it. Language choice at home across age groups was dominated by the use of Berber with the mother (77-88%) and the father (69-85%). With siblings, the use of Berber was less dominant, both with

younger ones (28-47%) and older ones (25-49%), as well as with Berber speaking friends (14-45%).

With respect to language dominance, children aged 4-5 years were dominant in Berber (52%), while the older ones (6-17 years) were dominant in Dutch. Regarding language preference, 45% of the youngest children (4-5 years) preferred Berber. This percentage decreased with age, reaching the lowest score with the ones aged 10-11 years, with 25%. After this age, the percentage of children preferring Dutch decreased, reaching 36% with the ones aged 17 years. There were also informants without a preference for any of the two languages. Their number varied between 5 and 25%, increasing with age (Extra *et al.*, 2002:86-87).

The general picture that emerges from these studies is that there is a pattern of language shift taking place between different age groups. This shift takes place at the levels of language proficiency, language choice, language dominance, and language preference. Shift takes place within the same generation, and as such is expected to speed up between generations too. Language shift of Berberophones in Morocco also takes place within one generation, in particular when a Berberophone family moves to an Arabic speaking area. The children born and growing up there acquire Moroccan Arabic in which they become dominant and which they also use with their parents. Proficiency in Berber is reduced to receptive skills.

The overall impression is that Berberophone children in the Netherlands are dominant in Berber by the time of starting school. By the time they reach the last grade of primary school, children have become dominant in Dutch. Berber is then used extensively with parents and younger siblings, while Dutch is nearly always used with older siblings and friends.

1.2.4 Research on Berber acquisition in neighbouring countries

Outside The Netherlands, empirical studies on the acquisition of Berber in general or of Tarifit in particular are very limited in Europe, i.e. two studies in Belgium and one study in Germany. Bouhjar (1993) studied language proficiency in the mother tongues of Moroccan youngsters in Brussels. Her sample consisted of 9 female Moroccan Arabic speakers and 6 female Tarifit speakers, aged 14 to 20 years. They were either born in Belgium or had been living there for a period of at least 10 years. Data collection was based on spontaneous conversations. Domains of analysis were lexicon, morphology and syntax. The results indicated that 10% of the youngsters' lexicon was borrowed from French, revealing strong gaps in their language repertoire. This outcome was reached after having distinguished real borrowings from French (French words not integrated in Arabic), from French loanwords integrated in and having become part of Tarifit, and as such used in Morocco too. For morphology, the youngsters had a good command of the verb system. Problems appeared with respect to the use of the non-definite articles *ijjen* (a/an) for masculine as opposed to *icten* for

feminine. Surprisingly, the same happened with the reference group in Nador (Morocco) too. Bouhjar referred to this phenomenon as neutralisation of the gender difference.

In syntax and morphology, there was a difference between the informants born in Morocco and the ones born in Belgium regarding the free-construct state. The latter group used the free state form of nouns instead of the construct one. This last form is marked by modifying the initial vowel of nouns. Besides, the utterances of the group in Belgium were marked by the use of simple sentence forms as opposed to complex ones. The mean length of utterances (MLU) was 3 items, while the reference group in Morocco had an MLU of 5 items. Most differences between the group in Brussels and the one in Morocco, however, were witnessed at the level of the lexicon (Bouhjar, 1993:168).

Another study conducted in Brussels is the one by Hassani (2001) on language loss among second generation Moroccans in Brussels. There were 16 informants, aged between 14 and 29 years. They were divided into two groups, one group speaking Moroccan Arabic (8) and the other one speaking Tarifit (8). Besides, data were collected in Morocco with two similar reference groups.

Patterns of language loss were studied in the domains of phonology, morphology, lexicon, and syntax. The findings with respect to the Berber group in Brussels show inaccuracies in all domains. In phonology, the following are encountered: reduction of geminate segments, sound substitution, and to a lesser extent, problems with pharyngealised sounds. With respect to morphology, the informants happened to omit or misuse personal affixes, and showed difficulties in plural formation. At the level of syntax, irregularities are observed with respect to the deletion or substitution of prepositions and conjugations. As far as the lexicon is concerned, some informants had difficulties in retrieving the appropriate lexical items during conversations, due to lacunas in their language repertoire (Hassani, 2001:411-412).

The socio-cultural orientation (friends' network) of the informants explained to some extent the observed degree of language loss. Informants with a non-Moroccan social network had a restricted use of Tarifit, and thus were more subject to language loss. The ones with a strong Moroccan social network had generally a very good retention of the language. However, this was not always the case, and depended on the proportion of use of Tarifit among their network friends (Hassani, 2001:474-475).

For Germany, the study of Mehlem (1998) is the one available to us. It deals with language use and language proficiency of Moroccan children in the age range of 10-15 years. Moroccan migration to Germany has been more limited compared to the Netherlands and Belgium as countries of destination in Europe. About 85% of all Moroccans in Germany concentrate in North Rhine-Westphalia and Hessen. Mehlem (1998) presents a demographic overview of Moroccan families in Germany and the

status of their children in the German school system, in particular in the city of Dortmund where he carried out his study. It should be noted that in conformity with Tilmatine (1994:22), Mehlem refers to Berber people and their language as *Masire/ Masirin* and *Masirisch*, respectively. These concepts relate to the common self-definition in terms of *Amazigh* (person) and *Tamazight* (the language). Mehlem's Berber data are based on Tarifit speaking children. The research sample consisted of a core group of 28 children who had been living for more than 4 years in Germany; 18 of them were Tarifit speakers, and 10 spoke Moroccan Arabic. Besides there was a control group of 10 children who were less than 4 years in Germany (Mehlem, 1998:36). Data collection was based on both reported language behaviour and language proficiency tasks. The latter consisted of a series of pictures which had to be described orally, first in German and then in Tarifit or in Moroccan Arabic. In a later stage, another picture description task was conducted for written text production in both German and Tarifit or Moroccan Arabic. In the analysis, these two-part data have been taken as a whole. Here, our focus is on the outcomes of the core group of 18 Tarifit speaking children.

In interaction with the father, 4 out of 18 children chose almost only Tarifit, 5 predominantly Tarifit, 8 Tarifit and German equally, and one child chose predominantly German. In interaction with the mother, 11 out of 18 children chose almost only Tarifit, 5 predominantly Tarifit, and 2 Tarifit and German equally. With siblings, 7 ones used Tarifit and German equally, 5 predominantly German, and 5 almost only German. No child spoke Tarifit only or at least predominantly. These patterns of language choice show a process of gradual language shift.

When asked why the parents would talk German to them, the children gave the following reasons: because they know German well one time, because they want to facilitate the learning of German 4 times, because they know that child's Tarifit is not good enough 6 times, or other reasons/does not apply 7 times. When asked mirrorlike why the parents would talk Tarifit to the children, various reasons were given as well, i.e. because they want to maintain Tarifit 8 times, because they speak Tarifit better than German 6 times, or because of both reasons 4 times. Reporting on their language preference, 2 children were in favour of Tarifit, 8 ones in favour of German, and 6 ones in favour of both languages.

The outcomes of the oral picture description task led to the construction of a cumulative language proficiency index for both German and Tarifit. For this index, a selection of the following parameters was taken into account:

- Text length, in terms of the total number of finite verb forms;
- Lexical variation, in terms of spatio-temporal adverbs, content words, full verbs, word types, and prepositions;
- Lexical strategies, in terms of code-switching, paraphrasing, generalising, and communicative break-down;

- Mean length of utterance;
- Sentence complexity, in terms of subordinate constructions.

Here, we can not go into many details of the analyses that have been carried out. For such details, we refer to Mehlem (1998:171-195, 229-235).

1.3 Acquisition of morphology and syntax

Before giving a presentation of the research questions for the present study, an overview of the major issues raised in language acquisition studies is in place. Some of these issues will be addressed in the discussion of the findings in this study.

Morphology is the area of linguistics concerned with the internal structure of stratified words. Early grammatical development involves the acquisition of the major devices used to express or understand grammatical relations in a given languages, including grammatical morphemes. Questions raised in this context are: how do children recognize the structural properties of the language they have been exposed to, and how do they produce grammatical morphemes, i.e. acquire which forms to use to fulfil which functions?

Following Chomsky's universal grammar theory (Chomsky, 1981, 1988), a good number of researchers postulate that children's acquisition of grammar is governed by a set of innate principles and parameters, and maintain that grammar acquisition is basically determined by strictly linguistic factors. By contrast, functionalist and constructive approaches (Elman *et al.*, 1996) argue in favour of an interactionist account where language acquisition is the result of interaction between biological, cognitive, and environmental constraints. In their view, the emergence of grammar is related to communicative and language processing constraints, and it interacts with the development of other language capacities, such as phonological and lexical skills.

Within functionalist-constructive frameworks, attention has been devoted to two main types of variation. First, there are cross-linguistic studies addressing questions such as why is the Turkish inflectional system so much easier for children to learn than the English one, or why is French so much harder for children to segment than Chinese? (Slobin, 1997b:136). Secondly, there is variation across individual learners of a language because children, even when acquiring the same language, vary in the rate as well as the style of acquisition of a wide range of language capacities.

Grammatical morphemes emerge at different times and are mastered at different rates (Brown, 1973). The frequency of occurrence of inflections in the input makes a difference in the time of occurrence in the speech of a child. When an inflection occurs frequently, its grammatical function will generally be hypothesized sooner, and its representation in the paradigm will be strengthened (Leonard & Swanson, 1999). Child language research has suggested that there is a hierarchy of grammaticizability

(Pinker, 1984; Slobin, 1985). Notions high in this hierarchy are those that appear in many words and have clear semantic correlates (Leonard & Swanson, 1999).

Bybee (1995) suggests a difference in acquisition between regular and irregular verbs. Regular forms such as *wash-washed* are stored as one lexical item, whereas irregular forms like *buy-bought* are stored as two separate lexical items, which Bybee refers to as *dual processing model*. It is frequency in the daily use that is important, and not the rule itself. The frequency of occurrence of words like *good-best* in English is high, and thus these words are acquired at an earlier stage than other regular low-frequent words.

The *blocking-plus-retrieval-failure model* of Marcus (1995) predicts that noun plurals have an initial period of correct use before the child has induced the default plural rule, followed later by a period of overregularization after the child has induced the plural rule. Children's early stage of correct performance comes from using memorized forms. Overregularizations only begin when the child has mastery of a regular default rule. In this sense, overregularizations are repairs of missing knowledge, created by overlapping a regular rule to inappropriate regular forms and irregular rules. The irregular forms are retrieved from memory and block the application of the default rule. If a child fails to retrieve the correct irregular form, the regular rule applies by default and the child produces the overregularization (Marcus *et al.*, 1995).

Connectionist models of inflection (cf. Rumelhart & McClelland, 1986) offer an alternative account of overregularization. Overregularizations occur when irregular forms are attracted to regular forms. For example, the overregularization *thinked* might occur by analogy to *blinked*. Thus, other things being equal, the more regular forms there are as compared to irregular forms, the more these forms will be overgeneralized.

The study of the acquisition of morphology generally makes a distinction between the acquisition of nouns and the acquisition of verbs. More nouns than verbs are acquired in the earliest stages of children's language development as Gentner (1982) found. Other studies showed just the opposite, i.e. more verb-dominance in the child's early language use (León, 1999b).

By most developmental accounts, children learning a language acquire names for concrete entities easily and do so in pretty much the same way. Gentner (1982) found that children have a dominance of nominal elements in their early utterances, leading her to propose a primordial cognitive readiness in young language learners to lexicalized, perceptually bound, and concrete entities. The functionalist/constructive approach considers that the category verb is acquired or constructed progressively and, therefore, that its mental representation changes during the process of acquiring a language and approaching adult competence.

Tomasselo (1992) proposes what he calls *the Verb Island Hypothesis*, according to which, in early stages, children use verbs as individual islands of verb-by-verb organization. The mastery of argument structure and a generalised morphological marking will not appear until the category verb is constructed. Initially, children use some forms in the present tense, mainly the third person singular, in the imperative

as well as in the infinitive, in order to convey their message. Later on, they extend verb morphological markers to other tenses, and acquire a greater repertoire of personal reference other than third person singular.

With respect to syntax, it is generally suggested that people rely on multiple cues for decoding sentences. The *competition model* of Bates and MacWhinney (1989) provides an exhaustive description in this field. The assumption is that different cues enter in competition when processing sentences and mapping form onto function, i.e. when determining the meaning of a sentence. Cues vary and include intra-sentential ones as word order, agreement, animacy, context, case marking, or extra-sentential ones as stress and topic. The weight of the cues varies from one language to another. An example of this is the interplay of word order and subject-verb agreement as cues to sentence meaning interpretation in Italian and English. Italian has more word order options than English which has a relatively rigid word order (SVO). This results in a difference in the reliability of word order as a cue in agent indication between English speakers favouring word order, and Italian speakers favouring subject-verb agreement (Bates & MacWhinney, 1989:11). Reliance on secondary cues occurs when an intra-sentential cue is not effective in sentence interpretation. Stress, for instance, was found to have an impact on Italian processing when the most important cue (i.e. verb agreement) was unavailable. For speakers of German, reliance on stress takes place when verb agreement is ambiguous, or when agreement and word order are in competition (Su, 2001a).

1.4 The present study

The subject of the present study is the acquisition of Tarifit morphology and syntax by children born and/or growing up in the Netherlands, i.e. in a migration context where Dutch is the dominant language, compared to the ones in Morocco, living in a Tarifit monolingual context.

Morphology testing will be conducted with respect to nouns and verbs. Nouns in Tarifit may be affixed for number and gender, as subjects, and objects. They agree with the markers on the verb. For verbs, there are three verb classes in Tarifit: finite, non-finite and auxiliary (Cadi, 1987; McClelland, 1987). Non-finite verbs, including infinitives, copulas and auxiliaries, have restricted inflections (McClelland, 2000:25).

The domains of investigation under the category of nouns will be plural formation and case marking, the latter also referred to as free and construct state. Plural formation in Tarifit is manifested mostly by simultaneous processes of prefixation and/or stem vowel alternation. Prefixation involves the vowel alternation of *a-* into *i-* in nouns beginning with *a-*, or prefixation of *i-* in nouns beginning with a consonant. Suffixation processing differs between masculine nouns (*-en, -an, -wen,- awen, -iwen,*

-yen, -ten) and feminine nouns (*-in,-win, -awin, -iwin, -yin, -tin*). Internal stem modification takes place at the level of vowels as in *aserd-u-n/iserd-a-n* (mule).

The domain of case marking will concern the shift of a noun form from the free to the construct state, i.e. after prepositions and when the subject of a verb is postverbal. This change in state takes form by means of the alternation of the initial of the noun. It is characterised either by vowel modification, like *a* becomes *u*, as in *aryaz/uryaz* (man), or by the insertion of a glide *w* or *y* before *a-*, *u-* and *i-*, or even by the deletion of the vowel following the initial gender marker *t-* for feminine nouns, as in *taḍenjirt/ tḍenjirt* (girl). Yet, there are a number of nouns that are invariable as *baceklit* (bike). The shift to the construct state concerns nominal stems, masculine or feminine, singular or plural. The structure of the noun in the free state hardly gives an indication about the form the nominal stem takes in the construct state. There are, however, two regular principles: (a) the vowel of the feminine plural *i-* which comes after the gender index *t-*, as in *t-i-mɣar-in* (women), or of the singular form *a* which comes after the gender index *t-*, as in *t-a-mɣar-t* (woman) drops in the construct state, and (b) the vowel *u* in singular or plural forms is never deleted in the construct state (Bouylmani, 1999). Saïb (1982:181) observes that feminine nouns as *tafunast* (cow), being derived from masculine ones as *afunas* (bull), are characterised by the deletion of the vowel which follows the initial feminine marker *t-*, whereas those which have the feminine property (without a masculine counterpart) as *tara* (fountain) maintain the vowel, and remain unchanged. However, this is not always predictable, and the learner has to acquire the etymology of the noun in question.

The domains studied within verb morphology are gender-number agreement, and perfective. With respect to the first domain, the concept of gender involves the binary opposition of masculine and feminine features, while that of number concerns the dichotomy of singular and plural forms. In the present study, gender-number morphology will be studied in relation to verbs, by means of personal inflections. They are obligatorily added to the verb, except when the verb is in the participle form. They occupy either the suffix position as in first person singular stem-*ɣ*, third person plural masculine stem-*n*, and third person plural feminine stem-*nt*, or the prefix position as in third person singular masculine *i-* and feminine *t-*stem, or both the prefix and the suffix positions as in second person singular masculine and feminine *t-*stem-*d* and second person plural masculine *t-*stem-*m* and feminine *t-*stem-*n-t*. In second person plural and third person singular and plural, the persons' inflections are complex features, containing gender markers (*i-*/*t-*stem, and stem-*t*) and/or plural markers (stem-*n*/*-m*).

In complex sentences in Tarifit, some interrogatives and relative clauses require the participle form of the verb. The crucial property of this participle form is that it does not agree with the subject, neither in number nor in gender. It is an invariable form for all subject forms, marked by the double affixation of *i-*stem-*n* (Ouhalla, 1993).

The perfective will refer to the verb form generally indicating that an action has been realized in the period of time anterior to the moment of speaking. From an aspectual point of view, there are two different perfective types. The first type is the *affirmative form* which indicates that an event has taken place, characterised by morphological agreement between subject and verb. From a morphological perspective, the realization of the perfective depends on the type of verb. The majority of verbs do not change form between aorist, the most basic form, and perfective, making the two entirely identical. Bouylmani (1999:235) claims that 94% of the verbs of his corpus of Tarifit belong to this category, while Penchoen (1973) mentions 80% of the verbs in the Berber variety of the Aurès (Algeria). Other ways of affirmative perfective marking are through adjunction of the vowel *a* to the stem, as in *egg/egg-a* (do/did), and through vocalic alternation by changing *a* into *u* as in *a-ley/u-ley* (get on) in the initial stem position, and in medial positions as in *zall/zull* (pray) (Bouylmani, 1999:239-240). The second aspect of perfective is *the negative form*, expressing that a particular event did not take place. The negative perfective is conditioned by the negation particle *war/ur* (not). Morphologically, it is different from the affirmative form, and it is characterised by the appearance of the vowel *i-* in the final syllable, either as a result of insertion as in *ndeh/wer nd-i-h* (drove/not drove), or as a consequence of the alternation of *a*, as in *egg-a/wer gg-i* (did/not did). This holds true for first, second, and third person reference. Yet, there are a number of verbs which do not change between the affirmative and negative form as in *ru/wer ru* (cried/not cried).

With respect to syntax, word order will be the focus of this study. It is commonly agreed that Tarifit has a free word order, as a consequence of which VSO, SVO, OVS, and even SOV do occur (Cadi, 1990). Yet, there is agreement that VSO is the basic word order in Tarifit as well as in other Berber varieties of Morocco (Cadi, 1997; Galand, 1979). Cadi (1990) claims that VSO sentences make up 78% of his corpus, while SVO sentences make up 22%, without mentioning anything about SOV sentences. El Aissati (2001) wonders about considering VSO as basic word order, noting that Berber may have SVO order instead. It seems that the consideration of VSO as basic order is based on the order in simple affirmative main clauses of at least one verb and a subject. Cadi (1990) based his support for VSO order on the parameters of Greenberg (1966), revealing that a VSO language is also a prepositional one, which is the case of Berber. On the basis of his parameters, Greenberg claims that Berber is indeed a VSO language. However, this does not happen to be true for all Berber varieties. Galand (1979) considers that Berber varieties of Morocco have VSO word order as basic order, and that Touareg Berber has SVO as basic order. El Aissati (2001) suggests that people can take another starting point for word order determination than basic affirmative sentences, such as the word order of subordinate clauses. He refers in this context to Koster (1975), who claims that Dutch basic word

order is SOV rather than SVO, since SOV is the unmarked word order in relative clauses and in sentences with auxiliaries in Dutch.

Having provided an overview of the topics that are focussed upon in the present study, we turn to a brief outline of the general objectives of the study. In the absence of empirical studies with respect to the acquisition of Berber by Moroccan children in a migration context, one major question makes the starting point for this study, namely, how does Tarifit manifest itself among Tarifit-speaking children in the Netherlands? This question will be answered by adopting the following pseudo-longitudinal perspectives:

1. How do grammatical morphemes develop among Tarifit speaking children in the Netherlands?
- How far is morphology developed among grade 1 children in the Netherlands?
- Is morphology fully developed among grade 8 children in the Netherlands?

2. How capable are these children in dealing appropriately with the three word order principles, witnessed in Tarifit?
- Are young children able to indicate the agent function in sentences with the three word order forms of Tarifit?
- Are older children capable of producing sentences in the three word order forms of Tarifit?

The study is based on both a cross-sectional and cross-national design. Data have been collected once at a time with two different groups, both in the Netherlands and in Morocco. The groups in the Netherlands will be referred to as *the core groups* of the study. The first group is made up of children of the first grade of primary school. 31 children took part in this study. They were aged 4-6 years, and born in the Netherlands. The second group comprised 27 children of the last grade of primary school. They were aged 12-14 years, born in Morocco or the Netherlands.

Interpretation of the data of the children in the Netherlands will occur against the background of similar data collected from Berberophone peers in the home country, who acquire the language in a monolingual setting. Therefore, data have been collected from two similar age groups in Morocco, referred to as *the reference groups.* Children of the youngest group were aged 4-6 years, and live in the central part of the Rif area. They acquire Tarifit as the mother tongue, in a Tarifit dominant environment. They were not at school yet, and used no other language besides Tarifit. The second group was aged 12-14 years, in the sixth grade of primary school in Morocco, being equivalent to the eight grade children in the Netherlands.

In the course of the study, two additional factors in the Netherlands have to be taken into consideration. The first factor is the relation between Tarifit as a minority

language and Dutch as the majority language. The influence of Dutch on the proficiency of the children in Tarifit is a matter of fact. It has generally been observed that contact between a minority and majority language ends up in favour of the latter. The effects on the minority language might be different from one context to another. Some grammatical influences of Dutch on Tarifit might be witnessed in the language production of the children in Tarifit. The second factor is the heterogeneity of Berberophone children in the Netherlands. Unlike monolingual children, mother tongue acquisition in a migration context is shaped by particular background factors of the families in which the children grow up. Children differ with respect to their parents' migration history and generation, the proficiency of the parents in the majority language, the patterns of language choice within the family, and so forth. Individual differences between the children in the Netherlands are expected to have both quantitative and qualitative dimensions.

CHAPTER 2

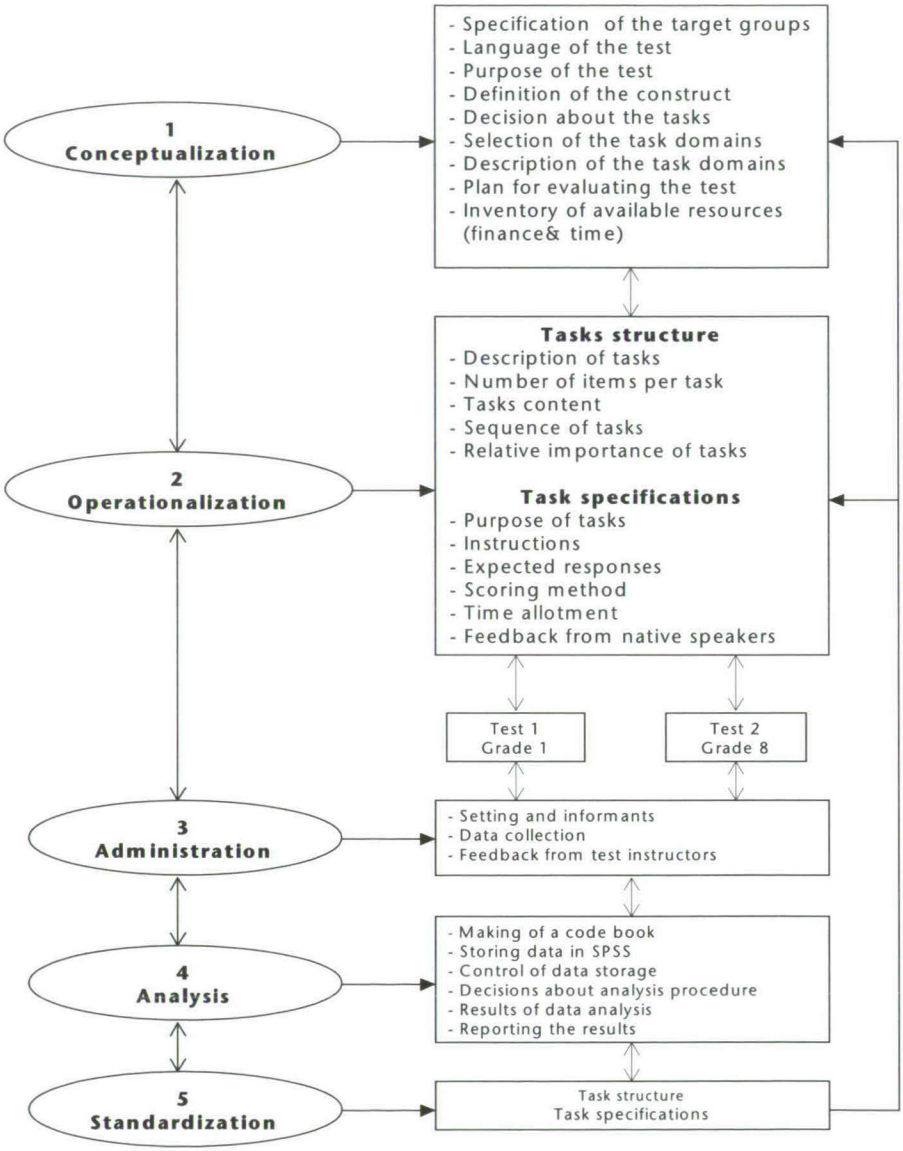
Design of the study

This chapter reports on the background of the test construction procedure for Tarifit speaking children. It is made up of two parts. The first one is devoted to conceptualisation, and deals with three major issues, i.e. dialect variation within Tarifit, the selection of the types of tasks, and the selection of the contents of the tasks. Part two is concerned with the operationalisation process.

Test construction passed through 5 stages, i.e. conceptualisation, operationalisation, administration, analysis, and standardisation. Each of these stages is concerned with specific assignments as outlined in Figure 2.1. Given the fact that it is not possible to handle each element within each stage at length in this part or other parts of this study, the focus will be on the most crucial and decisive elements in test development for Tarifit. For the first stage of conceptualisation, attention will be paid to the specification of the target groups, the language of the test, decisions about the task domains, and decisions about the task contents. These make up the core of the conceptualisation part (2.1). For the second stage, the focus is on description of the tasks, number of items per task, sequence of the tasks, purpose of the tasks, instructions, and scoring method. These are dealt with in the part of operationalisation (2.2). The third stage of administration deals with setting, informants, and data collection. The fourth stage goes on with the procedure and results of data analysis. The final stage of standardisation is devoted to the design of a standard test battery to be used for the main study. The last 3 stages of administration, analysis, and standardisation will be the subject of Chapter 3.

Arrows between the five stages are double-headed, indicating forward and backward directions. The first direction shows the ordering of the stages from the first to the last one. The backward direction implies that it is always possible to go back to the previous stage(s) if necessary.

Figure 2.1: Stages of Tarifit test development



2.1 Conceptualisation

2.1.1 Specification of the target groups

Testing language proficiency implies quantification of language abilities, and may allow for making assumptions about language knowledge. Assessing language proficiency implies solving complications regarding what is to be tested in relation to the contents. This is the issue of validity (Davies, 1990:10). Deciding about the contents of a test differs from one language to another, from one age group to another, and from one context of testing to another (e.g. home country context or immigration country context).

The target population in the present study consists of 2 groups. The first group is made up of children aged 4 to 5 years, born in the Netherlands, and acquiring Tarifit as their mother tongue. Obviously, the language development of children at this age has not yet reached a final stage. The children have already developed certain language skills and are still developing others. Because they are in the first grade of primary school, they will be further referred to as grade 1 children. The other group is made up of children aged 12 to 13 years, born and/or growing up in the Netherlands. Generally speaking, children of such age already master the major patterns of grammar of their mother tongue. Because these children attend the last grade of primary school, they will be referred to as grade 8 children.

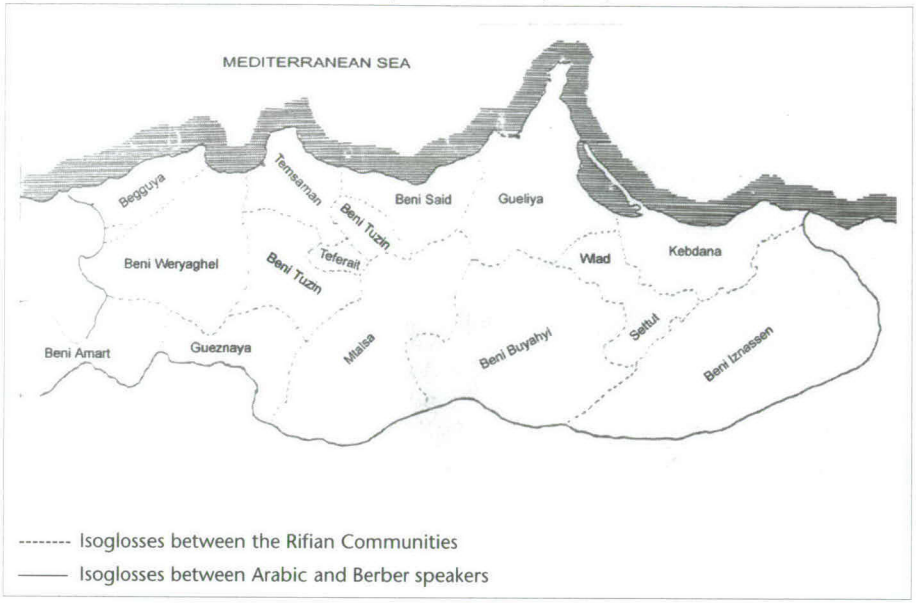
2.1.2 Language of the test

The Rif region lies in the North of Morocco along the Rif mountains, extending from the Moulouya river in the East to the Ait Gmil river in the West. The area is geographically divided into 2 parts. The Western area is situated between the 2 rivers of Ait Gmil in the West and that of Kert in the East (see Figure 2.2). To this area belong the tribes of Ait Itteft, Beqqoya, Ait Ouriaghel, Tamsaman, Ait Said, Ait Touzin, Ait Ammert, Ait Oulichek, and Gueznaya. The other part lies in the East, extending from the Kert river in the West to the Moulouya river in the East. The Eastern area is populated by two major tribes: Guelaia and Kebdana (Saib, 1989).

A linguistic classification of the Rif region leads to a different distribution than the geographical one, by extending the Tarifit domain beyond the Eastern border of the Moulouya river, to contain the Berber dialects of Beni Iznassen and Ait Bouyahyi. A linguistic distribution of the region leads to the distinction between 4 major dialects: (a) dialects of the East, known as Tachebdant and Taznassnit (or Iznassni), spoken by Ikebdanen, Ait Bouyehyi, Oulad Settout, and Ait-Iznassen; (b) dialects of the Middle, known as Taqeraacht, spoken by Guelaia, Ait Said, and Metalsa; (c) dialects of the North-West, known as Tarifit, spoken by Ait-Touzin, Ait Oueriaghel, Tamsaman, and Ait Saad; (d) dialects of the West, spoken by Ghomara, and Sanhaja Srair (Ait Seddat, Ait Khannous, and Ketama) (Cadi, 1987:9; Saib, 1986). This classification remains

approximative, because the border lines between the various isoglosses are not clear-cut. Figure 2.2 shows a map of these border lines.

Figure 2.2: Distribution of Tarifit dialects (source: Renision, 1932)



Linguistic variation between the dialects spoken in the East (Kebdana and Ait Iznassen) and the dialects of the Middle (Guelaia) and the West (Tarifit) is very apparent, and is more a matter of phonology and lexicon, than of morphology and syntax (see Renisio, 1932). In spite of phonological and lexical differences between the various dialects, there is still much homogeneity within Tarifit. This is because all of these dialects belong to the same Berber language branch of *Zenatic* (Saib, 1989), which makes them mutually intelligible.

With the issue of dialect variation within Tarifit in mind, and given the fact that not all Tarifit children in the Netherlands speak the same Tarifit dialect, it becomes evident that a random test cannot be used for all speakers of the different dialects. A fair instrument should test children in the variety they speak. The question is which variety should be chosen as the language of the test in the present study?

The favoured solution for the present study was to develop a test on the basis of one variety. The chosen variety is the one of the centre, spoken in the areas of Guelaia and Ait Said. There are two good reasons for the selection of this dialect as the language of the test. From a dialectological perspective, the dialect of the Middle shares many characteristics with the other dialects spoken in either the East or the West. As such, the dialect of the Middle is a good compromise in the absence of a standard variety of

Tarifit. The second reason is a practical one; many Moroccans in the Netherlands originate from the central part of the Rif. It follows naturally that this population should be targeted in the study. By making this choice, we aim at neutralising the effect of dialect variation, provided that the test is conducted with native speakers of this Middle dialect, and that it is conducted by native speakers of the dialect in question. This should certainly be so for grade 1 children.

The limitation of the language test to 1 dialect does not go without consequences. First, the sample selection criterion becomes restricted, excluding speakers of other Tarifit varieties. Second, the results of the study cannot automatically be generalised to the Tarifit population in the Netherlands at large.

2.1.3 Selection of the task domains

Language is characterized as consisting of individual discrete 'bits', and language proficiency as knowing and using these bits. Testing language is seen as a process of sampling from these bits of knowledge (Lado, 1961). Indirect testing methods visualise certain language components as a target. For every component, a specific task is made. Data is collected in simulated contexts, where the testee is subjected to guided tasks. This method is often used in cross-sectional studies, and meant to diagnose the language proficiency of the testee in preconceived linguistic areas. It has been observed that a lot of structures that do not appear in spontaneous data, do appear via indirect test methods, and that children cannot make use of avoidance strategies in the latter method. Besides, such tests are useful to rank-order informants, and to be used as norm-referenced-tests (Ingram, 1985).

From the beginning, it becomes evident that there are 2 tests needed, 1 for grade 1 children and the other one for grade 8 children. The selection of the task domains for grade 1 children is more complex, depending on their language development. They have not achieved the final stage of acquisition yet. There is, first, a need for information about what these children have acquired and what not. The selection procedure involves 2 decisions: selection of the tasks and selection of the grammatical aspects within each task. The decision about the task domains has to do with the sequence of language development. Language proficiency is commonly defined in terms of phonology, vocabulary, morphology, and syntax. Babies, as they reach their first anniversary, begin to utter their first words. By 1 year and a half, word production multiplies considerably, and words begin to appear in combination with each other to form 2-word and 3-word sentences. In English, the children reach an MLU of more than 2 words, including some plurals, differing intonations, and an early use of definite and indefinite articles. By the age of 4 years, the MLU has become more than 3 words, and the speech of the child includes simple sentences, embedded simple sentences, conjunctions, pronouns, auxiliaries, and prepositions (Brown, 1973). Even though these findings are based on English speaking children, there is a common agreement that the acquisition of many other languages follows a similar pattern (Ellis, 1984).

Taking this information as a point of departure, it was decided to restrict the measurement of language proficiency to the 2 components of morphology and syntax. The other components were excluded for various reasons. For phonology, it was not expected to be a problem for the target groups as shown in earlier research. Grade 1 children proved to have a complete command of the phonological system of Tarifit (E-rramdani, 1999). As to vocabulary, this domain is an open category, impossible to count, and never acquired completely. Consequently, constructing tasks at the level of vocabulary would be more time demanding than the time span that this research would allow. Secondly, variation within Tarifit sub-dialects is robust at the level of vocabulary.

The preference for morphology and syntax over lexicon can be justified in terms of several arguments. First, morphology and syntax are relatively close categories, expected to be acquired at a certain age. It is more or less possible to make an inventory of morphological and syntactic properties, and then to decide about which aspects to select for the test. Second, testing morphology provides interesting evidence about the quality of language proficiency of the children. Third, Tarifit dialects show no mutual variation at these 2 levels. Finally, inflectional morphology is used extensively in Tarifit. It is a rich domain in the language worth to investigate.

The second decision to be made is about the type of grammatical aspects to test within each task domain of morphology and syntax. As a first step, an inventory of morphological inflections and syntactic varieties in Tarifit was made. Free morphology includes demonstratives, numerals, pronouns, and prepositions. Bound morphology includes gender, number, and verb morphology.

A selection of morphological and syntactic tasks depends on an understanding of the language development of monolingual children. Research conducted in this field shows the categories that are acquired by children at different ages, in particular which ones are acquired first and which ones at a later age. This would be the theoretical background for the task selection. With an inventory of morpho-syntactic properties in one hand, and empirical findings of language acquisition research in this field in the other, it would be easier for the test developer to select and adapt suitable tasks for the target groups under consideration.

Unfortunately, there has been no empirical research conducted on the acquisition of Tarifit by monolingual children in Morocco. As a consequence, the test developer is confronted with lack of data. The magnitude of the issue of task selection has primarily to do with grade 1 children. The test is meant to find out what these children have acquired or are supposed to have acquired and not what they have not yet acquired.

As a compensation for this missing background, we had recourse to the checking of some widely used tests. These tests were designed for children between 2 and 10 years old. One has to be aware of the fact that languages differ in this respect, since what might be easy to acquire in 1 language and thus not worthy to test might be

different in another language. Take plural formation in French versus Berber. In the former, there is no difference between regular singular and plural forms phonologically, if the determiner is disregarded, while in the latter, it is a complex process. References to other languages were however helpful in getting an impression of the contents as well as the structure of the tests. Among the tests checked were *De Utrechtse Taalniveau Test voor 4-7 jarigen* (Kohnstamm 1983) (The Utrecht language level test for 4-7 years old children) for Dutch speaking children (1983), the *Illinois Test of Psycholinguistic Abilities* (Samuel et al. 1968) in English, and the *CITO Toets Tweetaligheid Marokkaans-Arabisch Nederlands 1-2* (CITO test of Moroccan Arabic-Dutch bilingualism 1-2) of 1995.

Finally, six tasks were selected for the test. Five tasks were designed for morphology, namely plural formation, gender-number distinction, perfective formation, person inflections, and case marking. The last task was concerned with syntax, dealing with word order construction in simple sentences.

2.1.4 Selection of the task contents

Selection of inflections to be tested is compulsory with respect to the 2 tasks of plural formation and perfective formation. The grammatical nature of the plural and perfective is complex in Tarifit, and the processes involved in constructing the plural and perfective form are too wide in number to test them all. In contrast, the number of inflections involved in gender-number distinction, person inflections, and case marking is limited.

Besides, selection of the contents of the tasks involves additional choices with respect to the lexical items to be used in each task. The vocabulary itself is used as a means to the testing of morphology and syntax. Empirical studies on the acquisition of morphology, syntax, and lexicon in Berber are badly needed in the ordering and describing of the targeted linguistic phenomena. Once again, there is a lack of empirical research in this field in Tarifit, and in Berber in general.

In addition to the lack of empirical data, Berber grammar studies are mainly descriptive, and lack transparency and conformity among linguists with respect to the classification of various phenomena. These differences in vision and thus absence of agreement among Berber linguists make the task difficult for the test developer to select his corpus for the test.

The starting point for the selection of the contents of the tasks was to adopt and follow clear grammatical classifications. Many references were on the theory of grammar. Some of them were on other Berber varieties than Tarifit, such as Penchoen (1973) about the Berber of Ait Ndhir in the Atlas. This last reference was used as a basis for the classification of plural forms and perfective. For the latter task, the study of Nait-Zerrad (1994) about the Berber variety of Kabylia in Algeria was benefited from too. Both Penchoen (1973) and Nait-Zerrad (1994) classify verbs into 2 categories, i.e. the ones which have the same form in the perfective as in the aorist form, which

is often used as the basis for the discussion of verb morphology in Berberology, and the ones taking different forms. For the other tasks, the references used were Cadi (1987), Kossmann (1997), and Bouylmani (1999).

2.2 Operationalisation

This second part of Chapter 2 provides a description of the 2 tests developed for the present study. 1 test is to be used with grade 1 children and the other one with grade 8 children. The 2 tests focus on morphology and syntax. The testing of morphology is done at the word level in terms of plural formation, gender-number distinction, person inflection (for grade 1 only), case marking, and perfective formation. Syntax is tested by means of one task, dealing with word order construction. Below follows a presentation of each task, its contents, the way it has been conducted, and the scoring system used.

2.2.1 Plural formation

The common distinction between regular and irregular plural forms has little sense in Tarifit. Plural formation in Berber exhibits morphological process so large in number that a *novice investigator will wonder as to how Berber speakers can aptly keep track of the fairly varied and complex array of means and processes that appear to be involved in their information* (Saib, 1986). Penchoen (1973), though admitting the complexity of plural formation in Berber, made the task easy by distinguishing between 2 categories, i.e. regular and other plurals. Regular plurals change the first vowel *a* of the singular form into *i* and take the prefix *n*. These plurals are called regular, because about half of Tamazight nouns account for this change pattern of *a* into *i*, linked with a suffix *-n* or *-in* according to gender (Penchoen, 1973:14). Other plurals are nouns undergoing other changes than the regular ones. Saib (1986) considers the ablaut of the initial vowel *a* into *i* as the most common form. There are few cases in which the vowel *a* remains unchanged, e.g. *accaw/accaw-en* (horn). Nouns beginning with vowels like *i* as in *iɣzar/iɣezran* (river) and *u* as in *uccen/uccnan* (wolf) do not change their initials in plural form (Chami, 1979:246; Bouylmani, 1999:135). In addition to the process of initial vowel change (*a* becoming *i*) or the insertion of *i*, Saib (1986) names 4 other processes taking place in plural formation, namely suffixation, involving the suffixation of *-en, -an, -wen, -awen, -iwen, -yen, -ten* for masculine nouns, and *-in, -win, -awin, -iwin, -yin, -tin* for feminine ones; stem modification by the alteration of a vowel in the middle of the stem with a gemination of the second consonant as in *fud/i-fadden* (knee), or degemination as in *tazeqqa/tizeɣwin* (roof); mixed plurals by combining more than 1 means as in *ḍaḍ/i-ḍuḍ-an* (finger); and procliticization of another unbound morpheme, by taking a free morpheme as a marker of plural as in *uma/ayt ma* (brother). The latter is mostly attested in kinship terms, and is not taken into

consideration in the task. The following main morphophonemic processes are accounted for in the present study: prefixation, suffixation, and stem modification. Irregular forms make another category of plurals in Berber, like *tawwart/tiwwura* (door/-s), and are also included in the present study.

Two plural tasks were constructed, 1 for grade 1 children, and 1 for grade 8 children. Both tasks have the same structure, containing 5 types of regular forms, i.e. 3 masculine and 2 feminine. Differentiation between types is based on the suffix form the nouns take, distinguishing thus between the following suffixes: *-en, -an, -awen/-ayen* for masculine, and *-in, -win, -tin* for feminine. Each type is itself divided into cases, based on the prefix and/or infix changes each case undergoes. Nouns with irregular plural forms are included in type 6. The 6 types are shown in Table 2.1.

Table 2.1: Typology of plural formation task for grade 1 and grade 8 children

Forms	Gender	Type	Suffixation
Regular	masculine	type 1	-en
		type 2	-an
		type 3	-awen/-ayen
Regular	feminine	type 4	-in
		type 5	-win/-tin
Irregular	masculine & feminine	type 6	–

The following is a description of the items of each type for the plural formation task for grade 1 and grade 8 children. The presented Tables 2.2-2.7 have the same structure. The first column contains the stem of the cases in the singular form, while column 2 shows the stem in the plural form, indicating the changes undergone. In the third and fourth columns, the items included in the task are presented, first in the singular form, and then in the plural. English glosses are given in a separate column. The last 2 columns are reserved for the 2 grades, and indicate which items are included in the task of the 2 groups. The mark *x* indicates that the item is included in the task of the concerned grade.

Table 2.2: Type 1 for masculine items of the plural formation task

Cases		Items		Gloss	N items	
Singular	Plural	Singular	Plural		Grade 1	Grade 8
1 a-stem	i-stem+en	1 a-funas	i-funas-en	cow	x	
		2 a-mezyan	i-mezyan-en	young	x	
		3 a-zellif	i-zellif-en	head	x	
		4 a-bercan	i-bercan-en	black	x	
		5 a-quḍaḍ	i-quḍaḍ-en	thin	x	
		6 a-ryaz	i-ryaz-en	man		x
		7 a-nzer	i-nzar-en	nose		x
		8 a-ɣembub	i-ɣembub-en	face		x
		9 a-kniw	i-kniw-en	twin		x
		10 a-briw	i-briw-en	eyelash		x
2 0-stem	i+stem+en	11 ḍar	i-ḍar-en	foot	x	x
3 0-stem	i+st-e-m+en	12 fud	i-f-a-d-d-en	knee	x	x
		13 fus	i-f-a-s-s-en	hand		x
4 i-stem	a-stem	14 i-cca(r)	a-cca(r)en	nail		x
5 a-stem	a-stem-en	15 a-ncuc	ancuc-en	lip		x

Type 1 masculine items (Table 2.2) take the suffix *-en,* divided into 5 cases. Items of case 1 take *a-* in the initial of the stem in the singular form, and change it into *i-* in the plural. Case 2 consists of the 1 item *ḍar* (foot), without *a-* vowel in initial position of the stem, and thus takes the prefix *i-* in the plural. Items of case 3, i.e. *fud* (knee) and *fus* (hand), begin with a consonant. These items are subject to the insertion of the prefix *i-*, and to stem modification by changing *-u-* into *-a-* and geminating the last consonant (*i-fad-d-en/i-f-a-s-s-en*). Case 4 has the 1 item *iccar* (nail), which already has *i-* in the initial position in the singular form, and which changes into *a-* (*accar-en*). The last case of type 1 involves 1 item, beginning with *a-*, which is maintained in the plural. The item undergoes one change only, at the suffix level as *ancuc/ancuc-en* (lip). The plural task for grade 1 children includes 7 items from type 1 for masculine nouns, belonging to cases 1-3. The task for grade 8 children contains 10 items of this type, including items of all cases.

Table 2.3: Type 2 masculine items of the plural formation task

Cases		Items		Gloss	N items	
Singular	Plural	Singular	Plural		Grade 1	Grade 8
1 a-stem	i+stem+an	1 a-lɣem	i-leɣm-an	camel	x	x
		2 a-simi	i-sim-an	baby		x
2 0-stem	i-stem-modification+an	3 filu	i-fil-a-n	thread		x
		4 ḍaḍ	i-ḍuḍ-an	finger		x
		5 fiɣer	i-fiɣr-an	snake		x
		6 yis	i-ys-an	horse	x	x
3 i-stem	i+stem+an	7 i-ɣzar	i-ɣezr-an	river	x	x
		8 i-z-i	i-z-a-n	fly		x
4 a-stem	i-stem-modification	9 a-serd-u-n	i-serd-a-n	mule		x

Type 2 masculine nouns (Table 2.3) commonly take the suffix *-an*. This type contains 4 cases. Items of case 1 submit to prefix transformation of *a-* into *i-*. Items of case 2 begin with a consonant in the singular, and thus take the prefix *i-* in the plural. Items of case 3 have *i-* at the initial of the stem, and undergo no change at the prefix level, by keeping *i-* unchanged. Case 4 contains 2 items, which submit to a change inside the stem before the last consonant, by changing *u-* into *a-*. The plural task for grade 1 children contains 3 items of type 2 for masculine nouns, i.e. 1 item from case 1, and 2 items from case 3. The task for grade 8 children contains 8 items, belonging to all cases.

Table 2.4: Type 3 masculine items of the plural formation task

Cases		Items		Gloss	N items	
Singular	Plural	Singular	Plural		Grade 1	Grade 8
1 0-stem	i-stem-wen	1 mucc	i-mucc+wen	cat	x	
2 0-stem	0-stem-awen	2 ul	ul-awen	heart	x	x
3 a-stem	i-stem-wen	3 a-ɣenja	i-ɣenja-wen i-ɣenja-yen	ladle	x	x
4 0-stem	0-stem-awen	4 ir-i	i-r-a-wen	neck	x	x
5 a-stem	i-stem+yen	5 a-ɣerda	i-ɣerda-yen	mouse	x	x

Type 3 masculine nouns (Table 2.4) contain items that take the suffix *-(a)-wen* or *-yen* in the plural. There are 5 cases within this type. The item of case 2 takes the suffix *-awen*, and keeps its initial *u-* unchanged. All other items take *i-* in the plural. Yet, they differ with respect to whether *i-* of the plural has resulted from a change of *a-* into *i-*, as in cases 3 and 5, or is adjusted to the stem as in case 1, or the stem has already *i-*, which is kept in the plural too, as in case 4. The task for grade 1 children includes 5 cases of this type, while the task for grade 8 children includes 4 cases.

The feminine category is divided into 2 types. Type 4 (Table 2.5) includes items which submit to the common suffixation rule of *-in*, while the ones of type 5 take the suffixes *-win* or *-tin*. Unlike masculine nouns, feminine nouns are marked for gender by means of the morpheme *t-* at the beginning and at the end of the noun, as in *t-amɣar-t* (woman). In the plural form, the gender marker at the prefix level remains, while the one at the suffix level disappears, as in *t-imɣar-in* (women).

Table 2.5: Type 4 feminine items of the plural formation task

Cases		Items		Gloss	N items	
Singular	Plural	Singular	Plural		Grade 1	Grade 8
1 t-a-stem-t	t-u-stem-mod-in	1 t-a-d-da-r-t	t-u-dr-in	house	x	x
2 t-a-stem-t	t-i-stem-in	2 t-a-meqran-t	t-i-meqran-in	big	x	
		3 t-a-cemlal-t	t-icemlal-in	white	x	
		4 t-amellal-t	t-imellal-in	egg	x	
		5 t-a-fden-t	t-ifedn-in	toe		x
		6 t-aɣru-t	t-i-ɣerd-in	shoulder		x
		7 t-a-sraf-t	t-iserf-in	silo		x
3 t-0-stem-t	t-i-stem-in	8 t-faw-t	t-i-faw-in	light	x	x
4 t-0-stem-t	t-i-stem(+m)-in	9 t-ɣaṭ	t-i-ɣeṭṭ-in	goat		x

Type 4 feminine items comprise 4 cases. All items of this type take the suffix *-in* in the plural form. They differ with respect to transformations undergone at the prefix and/or infix level. The item of case 1 changes the prefix *a-* into *u-*. Items of case 2 have the vowel *a-* in initial position, and change it into *i-* in the plural. The item of case 3 has no vowel in initial position, and thus takes the prefix *i-* in the plural. The last item of case 4 is subject to prefixation of *i-*, and to vowel deletion in the middle of the stem. The task for grade 1 children includes 5 items from type 4. One item belongs to case 1, 3 items belong to case 2, and 1 item belongs to case 3. The task for grade 8 children includes 6 items.

Table 2.6: Type 5 feminine items of the plural formation task

Cases		Items		Gloss	N items	
Singular	Plural	Singular	Plural		Grade 1	Grade 8
1 t-stem	t-stem-a-win	1 tiṭ	tit-a-win	eye	x	x
2 t-a-stem	t-i-stem-i-win	2 t-a-lefsa	t-i-lefs-i-win	viper	x	x
3 t-a-stem	t-i-stem+tin	3 t-a-ziyya-t	t-i-ziyya-t-in	bottle	x	x
4 t-0-stem	t-i-stem-tin	4 t-burjet	t-i-burja-t-in	window	x	

Feminine items of type 5 take the suffixes *-(a)-win* (cases 1-3) or *-tin* (cases 4-5). Case 1 does not submit to any change at the prefix level. Case 2 has *a-* at the initial of the stem, transforming it into *i-* in the plural. Case 3 has already *i-* at the initial position of the stem, which is kept unchanged in the plural. Case 4 is subjected to prefix transformation of *a-* into *i-*, while the stem of case 5 begins with a consonant, and thus takes the prefix *i-* in the plural. The items included in the task for grade 1 children belong to the 4 cases. The task for grade 8 children is made up of 3 cases, excluding case 4.

The last type to be presented contains irregular plural forms, i.e. nouns which do not submit to any of the rules presented before. Table 2.7 lists the items included in this type.

Table 2.7: Type 6 irregular forms of the plural formation task

Case	Items		Gloss	N items	
	Singular	Plural		Grade 1	Grade 8
1	1 lkursi	lekrasa	chair	x	x
	2 adrar	idurar	mountain	x	x
	3 tiɣmest	tiɣmas/aɣmasen	tooth	x	x
	4 tawwart	tiwwura	door	x	
	5 bnadem	iwdan	person	x	x
	6 taɣrut	tiɣerdin	shoulder		x
	7 lkazi	lekwaza	window		x

The list of irregular forms contains 7 items in total. These nouns submit to different transformations in the plural. They keep the singular root in the plural form, as in *lkursi/lekrasa* (chair). Changes undergone are at the stem vowel level. One exception to this rule is the item *bnadem* (person), changing its morphology in the plural completely, resulting in *iwdan*. The items of irregular forms belong to both masculine and feminine categories. The task for grade 1 children includes 5 items, the task for grade 8 children 6 items.

The task for grade 1 children is meant to be conducted productively with a picture book. The child sees a picture with one object on the top half of the page. The same object is drawn more than once below on the same page. The test instructor points first to the single object and refers to it in the singular form, by saying for instance *ta d tafunast* (this is a cow). Afterwards s/he points to the picture below with more objects and says *yina tnayen n/aṭṭas n* ... (and these are two/many ...), letting the child finish the sentence. The child is expected to provide the plural form of the objects on the picture.

The task for grade 8 children is a productive one too, conducted without a picture book. The child is told that s/he will hear a word in the singular form as *aryaz* (man), and that s/he should give the plural form of it (*iryazen* (men)).

2.2.2 Case marking

Case marking has to do with the free-construct forms of nouns. Most nouns in Tarifit have a free state and a construct state. The free state is the neutral form of the noun such as *mucc* (cat). The construct state is attested (1) when the subject is post-verbal as in *iggur umucc* (the cat is walking), where *u*mucc is in the construct state, and (2) when the noun appears after a preposition, as in *irezzu x u*mucc (he is looking for the cat). The transformations taking place in the construct state differ between masculine and feminine nouns. They differ also within each gender category. The changes are not predictable. Table 2.8 gives some examples of the type of these changes.

Table 2.8: Case marking transformations in Tarifit

	Transformation		Example		Gloss
	Free state	Construct state	Free state	Construct state	
Masculine nouns	a-stem	u-stem	a-ryaz	u/w-ryaz	man
	a-stem	w-stem	a-nu	w-anu	well
	u-stem	w-stem	ul	w-ul	heart
	0-stem	u-stem	mucc	u-mucc	cat
	i-stem	yi-stem	i-les	y-iles	tongue
Feminine nouns	t-a-stem	t-e-stem	t-a-mɣart	t-e-mɣart	woman
	t-i-stem	t-stem	t-i-funasin	t-funasin	cow

The task for grade 1 children tests the use of the construct state after prepositions. This is first and foremost due to the operationalisation procedure. It was possible to think about a strategy for testing the status of nouns after prepositions, but not after verbs. The task contains nouns which change form from free to construct state, as well as nouns which do not change. The last category of nouns is used to distract the attention of the children from the main goal of the task. Tables 2.9 and 2.10 present items of masculine and feminine nouns for grade 1 and grade 8 children, respectively.

Table 2.9: Case marking of masculine nouns for grade 1 children

Case		Items		Gloss
Free state	Construct state	Free state	Construct state	
1 a-stem	wa-stem	1 a-man	wa-man	water
2 a-stem	u-stem	2 a-ḥenjir	u-ḥenjir	boy
		3 aɣerda	u-ɣerda	mouse
		4 a-qzin	u-qzin	dog
		5 a-serdun	u-serdun	mule
3 0-stem	u-stem	6 mucc	u-mucc	cat

There are 3 cases and 6 items in the masculine category. The first case changes the initial *a-* of the stem into *wa-*. The second case contains 4 items which get the construct state by transforming the initial *a-* of the stem into *u-*. The item of the last case begins with a consonant, and takes *u-* in the construct state.

Table 2.10: Case marking of feminine nouns for grade 1 children

Case		Items		Gloss
Free state	Construct state	Free state	Construct state	
1 t-a-stem-t	t-stem-t	1 t-a-ḥenjirt	t-ḥenjirt	girl
		2 t-a-mmurt	t-murt	floor
		3 t-a-senduqt	t-senduqt	box
		4 t-a-kerrust	t-kerrust	cart

The feminine category comprises 1 case and 4 items. The feminine gender marker occurs at the beginning and at the end of the stem, i.e. *t-stem-t*. The nouns have *-a-*vowel after the first gender marker in the free state, which disappears in the construct state.

The case marking task for grade 1 children contains 10 items which change form from free to construct state, and 5 which do not. The task is productive, conducted with the help of a picture book. The child gets to see a picture first, like a child looking for a dog. The instructor asks the child a question like *muxef irezzu uḥenjir?* (what is the child looking for?). The expected correct answer is ... *x uqzin* (... for the dog), using the preposition *x* (for) followed by the noun *uqzin* (dog) in the construct state.

The task for grade 8 children examines the use of the construct state in 2 conditions: when the subject occurs after a preposition and when it is post-verbal. As in the task of grade 1 children, the nouns included belong to masculine and feminine categories as shown in Tables 2.11 and 2.12.

Table 2.11: Case marking of masculine nouns for grade 8 children

Case		Items		Gloss	N items	
Free state	Construct state	Free state	Construct state		After prepositions	After verbs
1 a-stem	u-stem	1 a-ryaz	u/w-ryaz	man	x	
		2 a-qzin	u-qzin	dog	x	
		3 a-nẓar	u-nẓar	rain		x
		4 a-meddukel	u-meddukel	friend	x	
		5 a-ɣrum	u-ɣrum	bread		x
		6 a-ḥenjir	u-ḥenjir	boy		x
2 u-stem	wu-stem	7 u-l	wul	heart	x	
3 0-stem	u-stem	8 mucc	u-mucc	cat	x	x
		9 fud	u-fud	knee	x	
4 i-stem	yi-stem	10 i-ryazen	ye-ryazen	men	x	
		11 yi-s	uyis	horse	x	
		12 i-qzinen	ye-qzinen	dogs		x

There are 4 cases with the category of masculine nouns. The first case includes nouns beginning with *a-*, which changes into *u-* in the construct form. There are 6 nouns in total, 3 used after prepositions, and 3 in a post-verbal context. The second case includes 1 item, beginning with *u-* in the free state, and taking *w-* in the construct form. There are 2 nouns in case 3. They begin with a consonant, and get the prefix *u-* in the construct state. In the last case, the nouns begin with *i-*, and take *y-* in the construct state. This category contains 13 items, 8 used in a post-position context, and 5 in a post-verbal one.

Table 2.12: Case marking of feminine nouns for grade 8 children

Case		Items		Gloss	N items	
Free state	Construct state	Free state	Construct state		After prepositions	After verbs
1 t-a-stem	t-0-stem	1 t-a-ḥenjirt	t-ḥenjirt	girl	x	
2 t-a-stem	t-e-stem	2 t-a-rya	t-e-rya	brook	x	
		3 t-a-wriqt	t-e-wriqt	paper	x	
3 t-i-stem	t-0-stem	4 t-i-funasin	t-funasin	cows		x
		5 t-i-fednin	t-fednin	knies	x	
		6 t-i-ziyatin	t-ziyatin	bottles	x	
		7 t-i-mellalin	t-mellarin	eggs		x
		8 t-i-ḥenjirin	t-ḥenjirin	girls		x

The feminine category has 3 cases. Nouns of cases 1 and 2 have *a-* in initial position (occurring after the gender marker *t-*), while nouns of case 3 have *i-*. In the construct state, all nouns change their initials into a zero vowel. Nouns of cases 1 and 2 are in the singular form, while the ones of case 3 are in the plural form. The feminine category has 8 items, 5 ones used after prepositions and 3 ones after verbs.

The task for grade 8 children contains 22 nouns changing state. Besides, there are 9 other nouns that do not change their state. These items are used to distract the attention of the children from the main objective of the task. They do not make part of the task.

The task is carried out productively with a picture book. The test-taker sees a picture, for example with 1 child riding a mule and hears a stimulus sentence like *aḥenjir inya* ... (the child rides ...), and s/he has to finish the sentence as ... *x userdun* (... on a mule), by using the preposition *x* (on), with the noun in the construct state *userdun* (mule). When the child ignores the preposition, or does not know which one to use, s/he is offered the preposition to be used, and asked to use it to finish the sentence. In conditions where nouns appear after verbs, the child sees a picture with cows in the field. S/he hears the sentence *tifunasin ttettent* (the cows are grazing), and s/he is then asked to repeat the same sentence, starting with the verb *ttettent* ..., and to complete it using the same subject.

2.2.3 Gender-number distinction

The gender-number distinction task is devoted to subject-verb agreement, both in terms of gender and number, in second and third person forms. This is the goal of the task for grade 1 children. For grade 8 children, the task deals with subject-verb agreement as well as non-agreement, i.e. in the context of constructions where the verb is in the participial form. In such constructions the verb takes one form, regardless of the gender and number of the verb. The form is prefixed with *-i* and suffixed with *-n*, regardless of the gender and number of the subject noun, as in *aryaz ig i-ruḥ-n* (the man who left) or *tamɣart ig i-ruḥ-n* (the woman who left).

The task is divided into masculine and feminine categories, with verbs used with masculine subjects, thus taking masculine inflections (Table 2.13) and verbs used with feminine subjects, taking feminine inflections (Table 2.14). The task for grade 1 children uses second and third person forms, while the task for grade 8 children uses only third person forms.

Table 2.13: Gender-number inflections for masculine forms

Number	Person	Inflections	Items Grade 1	Grade 8	Gloss
Singular	2 nd	t-stem-ed	1 t-xezzr-ed		you are looking at
	3 rd	i-stem	2 i-ṭṭes	1 i-ṭṭes	he is sleeping
				2 i-ssirid	he is washing
Plural	2 nd	t-stem-em	3 t-sess-em		you are drinking
			4 t-ssawal-em		you are talking
	3 rd	stem en		3 ttirar en	they are playing
				4 ttru n	they are crying

The task for grade 1 children includes 4 verbs in the masculine form. 2 verbs are used in the singular form, 1 is in the second person, thus taking the prefix *t-* and the suffix *-d*, and the other one is in the third person, marked by the prefix *i-*. The plural form has 2 verbs in the second person, taking the prefix *t-* and the suffix *-m*.

The task for grade 8 children includes 4 verbs, 2 in the third person singular form, prefixed by *i-*, and 2 in the third person plural form, suffixed by *-n*. 4 verbs are used in the tasks for both groups. The 2 verbs of *issirid* (he-is-washing) in the singular form and *ttrun* (they-are-crying) in the plural are included in the task for grade 8 children, and not in the task for grade 1 children.

Table 2.14: Gender-number inflections for feminine forms

Number	Person	Inflections	Items Grade 1	Grade 8	Gloss
Singular	2 nd	t-stem-ed	1 t-essirid-ed		you are washing
			2 t-eggur-ed		you are walking
	3 rd	t stem	3 t ekker		she got up
			4 t eqqar	1 t eqqar	she is reading
				2 t eggur	she is walking
				3 t tt azzel	she is running
				4 ḍḍeḥḥec	she is laughing
Plural	2 nd	t stem nt	5 tt azl ent		you are running
			6 tti rar ent		you are playing
	3 rd	stem nt	7 ttirar ent		they are playing
			8 uḍa nt	5 uḍa nt	they fell down
			9 tte tte nt	6 tte tte nt	they are eating
				7 kkre nt	they got up
				8 ssawal ent	they are talking
				9 sɣuyyu nt	they are shouting
				10 qqar ent	they are reading
				11 sess ent	they are drinking

The task for grade 1 children contains 9 verbs in the feminine form. 4 verbs are used in the singular form, 2 of them in the second person, taking the prefix *te-* and the suffix *-d*, and 2 in the third person form, prefixed with *te-*. The other 5 verbs are used in the plural form, 2 in the second person form prefixed with *te-* and suffixed with *-nt* or *-mt* as in other dialects, and 3 in the third person taking the suffix *-nt*.

The task for grade 8 children comprises 11 verbs for the subject-verb agreement part. 4 of them are in the third person singular, 3 of them take the prefix *t-*, and 1 does not, due to the assimilation of *t* to *ḍ* of the verb *ḍḍeḥḥec*. 7 verbs are used in the third person plural, suffixed with *-nt*.

For the non-agreement part, verbs take the prefix *i-* and the suffix *-n*, irrespective of the gender or number of the subject. This part comprises 14 verbs. The same verbs used with agreement (Tables 2.12 and 2.13) are used in the non-agreement context, with the exception of the verb *ɣar*.

The task for grade 1 children is a productive one, conducted without a picture book. The child hears first an introductory sentence, either in masculine or feminine, like *Ali ittet* (Ali is eating). This sentence introduces the verb to the child. Afterwards, s/he hears the following *ula d Mina* ... (and Mina also ...). The child is expected to finish this sentence, using the verb s/he has just heard.

The task for grade 8 children is conducted productively with a picture book. The child sees a picture, and has to say what the person(s) on the picture is/are doing. In the case of gender agreement, the stimulus sentence is for instance *Mina* .... The child has to finish the sentence by describing the action on the picture as ... *ttett* (... is eating), using the third person feminine singular form. In non-agreement cases, the stimulus sentence is *maci d aḥenjir, d tamɣart i(g)* (it is not the boy, it is the woman who ...); the child has to finish the sentence according to the picture using the verb in the participle form, as in ... *ttetten* (... eating).

2.2.4 Person inflections

Verbs are inflected for all person forms. The inflections take place at the prefix and/or suffix level. This task is submitted to grade 1 children only. The task contains 16 sentences, divided into 2 parts. The first part examines the use of person inflections with the verb *ecc* (eat), a regular and very frequent verb in Tarifit. The second part uses the verb *ɣar* (read), an irregular verb. Table 2.15 presents the person inflections included in the task.

Table 2.15: Person inflections used in the task for grade 1 children

Number	Person	Items Inflections	Expected answer ecc (eat)	par (read)	N items Grade 1
Singular	1 st	stem-γ	ttett-eγ	1 qqar-eγ	1
	2 nd	t-stem-d	t-ttett-ed	2 t-qqar-ed	3
	3 rd masculine	i-stem	i-ttett	3 i-qqar	2
	3 rd feminine	t-stem	t-ttett	4 t-qqar	1
Plural	1 st	n-stem	n-ttett	5 ne-qqar	1
	2 nd masculine	t-stem-m	t-ttett-em	6 te-qqar-em	2
	2 nd feminine	t-stem-mt	t-ttett-ent	7 te-qqar-ent	2
	3 rd masculine	stem-n	ttett-en	8 qqa-en	2
	3 rd feminine	stem-nt	ttett-ent	9 qqar-ent	2

Table 2.14 shows the person inflections tested in the task for grade 1 children. The 2 verbs are listed in the forms they are tested in the task. The goal of the task is not the form of the verb, but the person inflections. This means, for example, that if the testee said *n-γar* instead of *ne-qqar* (we-read), this would also be correct, because the first person prefix for the plural is used correctly.

The task is conducted as a productive one without a picture book. In the first part with the verb *ecc* (eat), testing begins with examples in the first and second person. In the second part with the verb *γar* (read), the verb is introduced in the third person singular and first person plural. As a stimulus sentence, the instructor introduces the verb by saying *Muhamed i-ttett* (Mohammed is eating). In this way the verb *eat* is introduced. This introductory sentence is followed by *ula d Mina* ... (and Mina ...). This is an incomplete sentence which the testee is supposed to complete by using the verb eat.

2.2.5 Perfective formation

The aorist form is the point of departure for the construction of the perfective. The great majority of verbs in Tarifit make no morphological distinction between the aorist and the perfective (Penchoen, 1973:30). These are called basic verbs in the terminology of Penchoen (1973). The few other verbs which change form are called non-basic verbs. For the purposes of the present investigation, the distinction between aspect and tense in Tarifit is of no great consequence, and will be left out. Referring to tense here is more a reference to the form of the verb rather than its precise meaning.

In perfective negative forms, the majority of verbs change morphologically, compared to the aorist and the perfective affirmative forms. The perfective negative stem is characterized by the vowel *-i-*, replacing the last vowel in the stem as in *uf-a* (found)/*ur uf-i* (not found). This *-i-* occurs also before the last consonant in verbs whose perfective stem has no vowel before the last consonant, as in *krz* (ploughed)/*ur ikr-i-z* (not ploughed) (Penchoen, 1973:39). Monoliteral verbs, as such named by Cadi (1987), stand as an exception to this rule, in that the difference between the affirmative and the negative forms only concerns the third person singular and first person plural

as in *ufa/ur uf-i* and *nufa/uw nufi* (find) (Cadi, 1987:55-56), as in the verb *ttu* (forgot)/ *ur ttu* (did not forget). For the monosyllabic and bisyllabic verbs, the vocalic difference concerns only third person singular and first person plural. The 3-syllable verbs are subject to the insertion or change of the present vowel into *-i-*. This change takes place before the last consonant (Cadi, 1987:55-56), as in *ḥr-a-q/ur ḥr-i-q* (burn/did not burn). This holds true for all persons.

The task for grade 1 children examines the use of the affirmative perfective. It includes 8 basic and 10 non-basic verbs (Tables 2.16 and 2.17). Verbs are distinguished and categorized on the basis of their morphological form.

Table 2.16: Basic verbs of the perfective task for grade 1 children

Affixation	Case	Given tense	Items			Gloss
	Aorist-perfective		Aorist	Given form	Perfective	
No change	1 ccc	present	1 ɛdel	i-ɛeddel	i-ɛdel	repair
	2 ccc	present	2 kkes	t-ttekkes	t-ekkes	take
	3 cvcc	present	3 ɛawen	i-ttɛawan	i-ɛawen	help
	4 vcc	present	4 irḍ	t-ttirḍ	t-irḍ	wear
	5 cvcc	present	5 ɛarn	i-ttɛarn	i-ɛarn	push
	6 cc	future	6 ecc	ad tecc	t-ecca	eat
	7 ccv	future	7 nḍew	ad inḍu	i-nḍu	spring

The set of basic verbs is categorised into 7 cases. Differences between the cases are based on the morphology of the verbs. These include verbs with 1 (geminate) consonant as the verbs in case 6, the ones with 2 consonants as in cases 4 and 7, and the ones with 3 consonants as in cases 1, 2, 3, and 5. The verbs keep the same stem morphology in the aorist and the perfective. Yet, the verbs to be presented to the children are not in the aorist form. They are either in the present (imperfective) or in the future tense. As such, the morphological sameness of this category between the aorist and perfective is more or less disguised.

Table 2.17: Non-basic verbs of the perfective task for grade 1 children

Affixation	Case		Items			Gloss
	Aorist	Perfective	Given tense	Aorist form	Perfective	
Prefixation	1 vcc	u-c	future	1 a-ley	u-ley	get on
	2 vc	i-c	future	2 a-wey	i-wey	bring
			future	3 a-weḍ	i-weḍ	arrive
Infixation	3 cvc	c-u-c	present	4 z-a-ll	z-u-ll	pray
Suffixation	4 vc	vc-a	future	5 uc	uc-a	give
	5 cc	cc-a	present	6 γz	γz-a	dig
	6 ccvc	cc-a	future	7 ḍar	ḍr-a	get off
			future	8 ney	ny-a	ride on
	7 cvc	c-0-c-a	present	9 γar	γ-r-a	read
	8 cc	cc-a	future	10 seγ	sγ-a	buy
Pre-suffixation	9 vcc	u-c-i	present	11 a-ri	u-r-a	write

Table 2.17 presents the non-basic verbs of the perfective formation task for grade 1 children. Perfective forms given are of the third person singular as they are used in the task. There are 9 cases distinguished, based on verb morphology transformations. The verbs change their morphology between the aorist and the perfective. These changes take place at the prefix level as in cases 1-2, the infix level as in case 3, the suffix level as in cases 4-8, or prefix and suffix simultaneously as in case 9. The transformations have many forms, such as changing *a-* into *u-* (items 1, 4, 11) or into *i-* (items 2, 3), vowel mutation (items 7, 9), inserting one vowel (items 6, 8, 10).

The task for grade 1 children is a productive one, conducted with a picture book. There are 2 pictures on each page. One picture describes the action taking place. The verb is introduced to the child by means of a stimulus such as *da tamɣart ttṣebban* (here the woman is doing laundry). The other picture shows that the action is finished. The instructor points first to it, and then goes on with the following stimulus *i da ṣafi* ... (and here she has already...). The child has to finish this last sentence, by using the verb in the perfective. The word *ṣafi* is the trigger of the perfective in this context. It implies that the action is not taking place any more.

The task for grade 8 children is presented in Tables 2.18 and 2.19. The task includes 24 verbs, varying between monoliteral, biliteral, triliteral, and irregular ones. Each verb is tested in the affirmative as well as in the negative form.

Table 2.18: Basic verbs in affirmative and negative perfective for grade 8 children

Affixation	Case	Aorist	Perfective		Gloss	Change between Affirmative/ Negative
			Affirmative	Negative		
No change	1 monoliteral: c	1 ru	ru	ru	cry	no
		2 ttu	ttu	ttu	forget	no
		3 uc	uca	uc-i	give	yes
	2 biliteral: cc	4 ẓwa	ẓwa	ẓw-i	cross	yes
		5 siḥ	siḥ	siḥ	go around	no
	3 triliteral: ccc	6 ḍhar	ḍhar	ḍh-i-r	appear	yes
		7 ɛarn	ɛarn	ɛ-i-rn	push	yes
		8 ḥfer	ḥfer	ḥf-i-r	dig	yes
		9 kker	kker	kk-i-r	get up	yes
		10 sesw	sesw	sesw-i	irrigate	yes
		11 rḥel	rḥel	rḥ-i-l	move	yes
		12 xḍar	xḍar	xḍ-i-r	choose	yes
		13 ɛawen	ɛawen	ɛ-i-wen	help	yes
		14 wedder	wedder	wedder	get lost	no

The list of basic verbs in Table 2.18 includes 3 cases with a total of 14 items, i.e. 3 monoliteral, 2 biliteral and 9 triliteral. Verbs 1, 2, 5, and 14 do not change form between the affirmative and the negative form, i.e. the same affirmative form is used also in the negative form. The other verbs have different morphological characteristics in the affirmative and the negative form, marked by transforming the last vowel of the stem of the affirmative form into *i* in the negative form. One exception to this rule is

item 13 *ɛawen* (help), which is subjected to vowel mutation of the first vowel, resulting in (ur) *ɛ-i-wen.*

Table 2.19: Non-basic verbs in affirmative and negative perfective for grade 8 children

Affixation	Case	Aorist	Perfective Affirmative	Negative	Gloss	Change between Affirmative/ Negative
Suffixation	1 monoliteral: c	1 ney	ny-a	ny-i	ride on	yes
	2 biliteral: cc	2 ɛd-u	ɛd-a	ɛd-i	pass by	yes
		3 ɣar	ɣr-a	ɣr-i	read	yes
		4 seɣ	sɣ-a	sɣ-i	buy	yes
Pre-suffixation		5 a-rji/a	u-rj-i	u-rj-i	dream	no
Prefixation		6 a-ley	u-ley	u-ley	get on	no
		7 a-yem	u-yem	u-y-i-m	bring water	yes
		8 zu	i-zu	izu	bark	no
		9 a-weḍ	i-weḍ	i-w-i-ḍ	arrive	yes
Infixation		10 tt-a-r	tt-e-r	tt-i-r	beg	yes
		11 r-a-ḥ	r-u-ḥ	r-u-ḥ	go	no

There are 11 non-basic verbs listed in Table 2.19, distributed over 2 cases. 1 verb is monoliteral, while the other verbs are biliteral. All verbs change form from the aorist to the affirmative form. With respect to affirmative and negative forms, 4 verbs (5-6, 8-11) keep the same stem form in both conditions, while the other 7 verbs change form by transforming the last vowel in the negative form into *i.*

The task is conducted as a productive one. The child gets to hear the verb in the aorist form, like *ec* (eat). The child is asked whether or not s/he knows the meaning of the verb. It is explained to him/her when needed. Then follows the stimulus expression which begins as *iḍennaḍ Ali* ... (yesterday Ali ...). The child is asked to finish the sentence using the verb given at the beginning. This verb is to be put in the perfective affirmative form. Afterwards, the instructor continues with another stimulus for the negative form, i.e. *maca umas ur* ... (but his brother (did) not ...), which should be finished as *ur icc-i* in this example.

2.2.6 Word order construction

Three word order forms occur in Tarifit, i.e. VSO like *i-ttru uḥenjir* (is-crying the boy), SVO like *aḥenjir i-ttru* (the boy is-crying), and OVS like *tcamma y-ut itt uḥenjr* (the ball hit-it the boy). Grade 1 children are asked to indicate the subject of simple sentences, made up of 2 nouns and 1 verb. Word order is the clue to subject recognition. Other clues to subject recognition were neutralized, i.e. subject-verb agreement by assigning the same number and gender to the subject and object nouns, animacy by using animate nouns, and case marking by using proper nouns or nouns that do not bear a construct form. Yet, OVS sentences, as *tcamma y-uti-t Ali* (the ball hit-it Ali/Ali hit the ball), have the bound morpheme suffixed to the verb, indicating that the first noun preceding the verb is an object. This bound morpheme could not be neutralized, since its use is compulsory in OVS sentences.

The task for grade 1 children is described in Table 2.20. The fist column shows the order of nouns, followed by the word order pattern of the sentences, and a description of each of them in terms of gender. The verbs used are listed in the fourth column.

Table 2.20: Structure of word order task for grade 1 children

Nouns order	Sentence word order		Verb	Gloss
N1VN2	SVO	N1-mas / V-mas inflection / N2 mas	lqef	touch by accident
			isi	carry
			ḥada	touch
		N1 fem / V-fem Inflection / N2 fem	ɛarn	push
			ṣewwer	take a picture
			ḍfer	follow
	OVS	N1mas / V-mas inf+anaphora / N2 mas	sekker	wake someone up
			ṭṭef	catch
			ɣḍel	drop
		N1 fem / V-fem infl+anaphora / N2 fem	sekker	wake someone up
			ṭṭef	catch
			ɣḍel	drop
VN1N2	VSO	V-mas infl / N1mas / N2 mas	guwwed	lead by the hand
			jerr	pull
			ewet	hit
		V-fem Infl / fem V / N2 fem	sekker	wake someone up
			ṭṭef	catch
			ɣḍel	drop

The task for grade 1 children is made up of 18 sentences, i.e. 6 sentences for each word order category. VSO and SVO sentence types contain 3 elements only, i.e. 1 verb and 2 nouns. OVS sentence types have besides an anaphoric suffix *-t/-ten* (it, him, her/them) as used in the task, referring to the object. The 2 nouns of the sentences have the same gender form, i.e. both in masculine or feminine form.

The verbs used are action verbs. The actions the pictures describe are made up in such a way that both actors (nouns) on the pictures are able to perform the action. Sentences like *aḥenjir ineddeh baceklit* (the child is riding the bicycle), have only one interpretation when thinking about the subject. However, in a sentence such as *Ali ideffeɛ Farid* (Ali is pushing Farid), both nouns (actors) are suitable candidates to perform the action described. The task for grade 1 children is a receptive one. The choice of a receptive task has primarily to do with the age of the children. The children may not be able yet to produce the three word order forms, but they are expected to be able to decode sentences in different word orders.

The task is conducted with a picture book. The child gets to see 3 pictures. 2 pictures describe the same action as *hit*, but with 2 different agents. In 1 picture/sentence *the boy hits the ball*, in the other one the opposite occurs, i.e. *the ball hits the boy*. The third picture/sentence describes no action while both agents are still present, like *the boy is standing up, and the ball is on the ground*. The child first sees the pictures, and then hears the sentence. S/he is asked to point to the right picture, describing the right subject of the action. For example, for the sentence *Aicha teccat tcamma* (Aicha is

hitting the ball), the child has to choose between one of the following options: picture (1) with a girl hitting the ball (the correct answer), picture (2) with the ball hitting the girl (reverse situation), and picture (3) with a girl standing (doing nothing) and the ball on the ground nearby (no action).

The task for grade 8 children is designed in a different way. It is based on 3 types of questions. Each type is meant to lead to the production of 1 word order category. Questions of type 1 have the structure *min itteg uḥenjir?* (what is the boy doing?). This question is expected to trigger answers with SVO order. Questions of type 2 are formulated as *min ttwalid da?* (what do you see here (on the picture)?), meant to get answers in VSO order. Questions of type 3 are designed as *Farid, min d as iweqɛen?* (Farid, what happened to him?), meant to obtain answers with OVS order.

With respect to questions of type 2, it is doubtful whether they trigger answers with VSO or SVO orders, similar to questions of type 1. The starting point is, if the default word order in Tarifit is VSO, questions of type 2 should lead to VSO answers.

The task for grade 8 children is a productive one, conducted with a picture book. It contains 35 questions, accompanied by 35 pictures, with 1 picture per question. The child sees a picture describing an action. Afterwards, s/he hears a question in 1 of the 3 form types. The answer of the child is scored with respect to the word order used only, and not with respect to the contents, i.e. whether the picture is described properly or not.

2.2.7 Overview of the tasks

Table 2.21 gives a comprehensive overview of all tasks presented in this chapter. Morphology is tested by means of 5 tasks, i.e. plural formation, case marking, gender-number distinction, person inflections, and perfective formation. Syntax is tested by means of 1 task, designed to investigate word order. The tasks for grade 8 children are qualitatively and quantitatively more demanding than the tasks for grade 1 children. Qualitatively speaking, the tasks for grade 8 children focus on more grammatical aspects with respect to gender, perfective, and case marking. From a quantitative perspective, the tasks for grade 8 children have more items. For the complete versions of the tests for grade 1 and grade 8 children, see Appendix 1 and Appendix 2, respectively.

Table 2.21: Overview of Tarifit tasks and sub-tasks for grade 1 and grade 8 children

Domains	Tasks	Grade 1children		Grade 8 children	
		Mode	N items	Mode	N items
Morphology	1 plural formation	productive	29	productive	35
	2 case marking				
	after prepositions	productive	10	productive	13
	after verbs	–	–	productive	8
	3 gender-number distinction				
	with agreement	productive	13	productive	15
	without agreement	–	–	productive	14
	4 person inflections	productive	16	–	–
	5 perfective formation				
	affirmative	productive	16	productive	25
	negative	–	–	productive	25
Syntax	6 word order construction	receptive	18	productive	35

The tasks are designed to be conducted individually and orally within 1 hour. They are kept as short as possible, in order not to cause disinterest, and not to be strenuous to the children. The first draft of all tasks was submitted to adult native Tarifit speakers, grown up in Morocco and having been in the Netherlands since some years. All of them are native speakers of the dialect of the Middle of the Rif, chosen as the target variety of the tests. They were asked to check language use in relation to the target language variety, to give their impression about language use in relation to the age of the 2 target groups, and to give the correct answers according to their native intuition. In a second stage, the tests were conducted with a few children as a preliminary try-out. For further reviewing, the tests were submitted to native speakers in Morocco, living in the central area of the Rif. They were asked to give their opinion on the points stated above, as well as their comments in general.

CHAPTER 3

The pilot study

The purpose of this chapter is to present the design and outcomes of the pilot study, conducted with respect to the language proficiency tests made for grade 1 and grade 8 children. The issue of content validity will be the focus of this chapter. Validity testing implies solving complications regarding what is tested in relation to contents. The focus is not on the tests per se nor on the scores, but on how they are used to say something about test-takers in a particular population (Bachman, 1990:238).

The issue of reliability will not be dealt with. Reliability analysis was technically not possible to conduct, due to two factors. The most crucial one is the absence of variation within the scores of the core groups in the Netherlands. These scores did not happen to spread over a wide spectrum ranging from high to low, but rather concentrated close to each other. The absence of enough variation among the scores did not allow the conduction of reliability analysis for internal consistency. A second factor is the low number of items per task, ranging between 10 and 36 items. The number of items per task was limited in order not to end up in too long tests, which would be too demanding for the children.

This chapter is made up of 3 main parts. The first part presents the design of the pilot study, and deals with the setting of the pilot study, the background of the informants, the data collection procedure, and the data analysis methodology. Part 2 is devoted to content validity analysis by presenting the results of the pilot study of each task separately. Part 3 offers conclusions of this chapter.

3.1 Design of the pilot study

3.1.1 Setting and informants

The testing of grade 1 children was first conducted in Morocco, with monolingual children acquiring Tarifit as their mother tongue. The choice for conducting the pilot study in Morocco for this group and not in the Netherlands is justified as follows. The core group of children for which the test has been developed is aged 4-5 years, and lives in the Netherlands. Generally speaking, children of such age have not yet achieved the stage in which they use the language relatively similar to adult native speakers, as far as grammar is concerned. Given the fact that the constructed tasks were going to be used for the first time, there was no way to know whether the tasks were within the capacities of monolingual children in the home country or whether they were too

difficult for them. Conducting the tasks with monolingual Tarifit speakers in Morocco would make it possible to get a picture of the difficulty degree of the tasks.

In contrast, if the pilot study were to be conducted in the Netherlands, and the children would score very low on the task(s), the results would be hard to interpret. One interpretation could be that the low scores were due to the children's low proficiency in Tarifit. An other interpretation would be that the task(s) were too demanding or too difficult for their age group, i.e. the children did not have to master yet the aspects in which they were tested.

In total, 45 children took part in the pilot study in Morocco. It was conducted in the area of Ait Said, in the centre of the Rif. 72% of the participating children were aged between 3.5-5.5 years. 43 children were born in the same area, while 2 children were born in Oujda, an Arabic dominant city. 76% of the children were monolingual, 24% spoke a little Arabic too. The test instructors in Morocco judged the proficiency of the children in Tarifit as follows: 87% as (very) good, and 13% as fair. The children had not yet started attending school at the time of testing.

Pilot data of grade 8 children were collected in the Netherlands. Generally speaking, the grammatical proficiency of children aged 12-13 years is fully developed. However, Tarifit speaking children in the Netherlands were expected to have achieved a lower level of grammatical development than their peers in Morocco, due to reduced input conditions. The test was piloted among 17 children. Their parents originate from Aroui, Nador, Dar Kebdani, Drioush, Zaio, and Imzouren. 65% of the children reported to understand Tarifit (very) good, and the rest fairly well, whereas, 41% reported to speak the language (very) good, and 59% fairly well.

Besides, pilot data were collected with a sample of 7 of grade 8 children in Morocco. This decision was taken after the analysis of the data of grade 8 children in the Netherlands, which revealed very low scores. The children in Morocco lived in the same central part of the Rif as the grade 1 children. They were aged 12-14 years, and attended the 6th grade of primary school in Morocco, being the equivalent of the 8th grade in the Netherlands. For the sake of simplicity, the group in Morocco will be referred to as grade 8 children, similar to their peers in the Netherlands. Table 3.1 gives a summary of the research population for this pilot study.

Table 3.1: Research population for the pilot study

Groups	Morocco	The Netherlands	Total
Grade 1 children	45	–	45
Grade 8 children	7	17	24

3.1.2 Data collection

Data of grade 1 children in Morocco were collected by native speakers living in the same village as the children. Because children in the age of 4-6 years do not go to

school yet, children taking part in the pilot study were approached at home, via family members, neighbours, and by using a door-to-door method.

All tasks were conducted individually in one session. The test took an average of 35 minutes per child. Before the starting of any task, the instructor explained to the child what was expected from him/her by means of examples. Testing only started when the testee understood the task. The data were recorded on paper. Because the task of case marking was developed later than the other ones, it was tested with 11 other children in the same area.

The children of grade 8 in the Netherlands were approached at the mosque, where they took part in language instruction in Arabic. It was a good place to approach a large number of children. 17 children took part in the testing. They were tested by 3 instructors who spoke both Tarifit and Dutch. Testing sessions were recorded on audio-tape.

Besides, other 7 children in Morocco were reached at school. They were tested by one of their teachers. The teacher himself originated from the area, and spoke Tarifit well. Data of the grade 8 children both in the Netherlands and Morocco were registered on paper and recorded on audiotape.

3.1.3 Data analysis procedure

The main purpose of data analysis was not to judge the actual performances of the children in terms of correct versus false, or high versus low. Rather, it focussed on how the tests were conducted, how the answers were got, and why such answers were given, i.e. to describe the extent to which the test-takers responded as expected. This is referred to as response validity.

Quantitative analyses were conducted by studying the mean, mode, median, skewness, and percentile of the obtained scores. The mean gives an indication of the general performance of the group. The mode affords an idea about the trend in the scores of the test-takers. The median is less important in itself, but in combination with the mean and the mode, it makes the distribution of group scores clearer. Skewness is taken into consideration to show the direction of the distribution as positive or negative, i.e. the degree of difficulty of the tasks for the group. When the skewness value is zero, the distribution is symmetrical. For the children in Morocco, it is desirable to have the scores negatively skewed rather than normally distributed or positively skewed, because the group in Morocco is taken as a reference group on the basis of which the tests have to be standardised. The percentile locates the concentration of the test-takers with respect to a set of correct items. The 50^{th} percentile (50%) corresponds to the median.

The other type of validity to be taken account of is content validity. This is to control the following dimensions:

- Usefulness of the tasks, i.e. whether a task is worthy to conduct or not for one reason or another;

- Matching between the features tested within each task, and the age of the children; this is relevant for grade 1 children;
- Control of the tests with respect to the language variety chosen, in this case the one of the centre of the Rif;
- Matching between the task objectives and their instrumentation, i.e. whether the tasks used lead to what they aim to test, and whether the instructions and pictures (when used) serve the right purposes.

Qualitative analysis was applied too, and dealt with the types of answers obtained. 5 categories of answers were distinguished. (1) Correct answers as they were expected to be, following the standards of the language. (2) Answers different from the expected ones, but judged by the test instructors and/or the researcher as correct too. (3) Answers judged as false, following the norms of the language or the judgements of the instructors and/or the researcher. (4) No response were counted as errors and not as missing values. An item with a high number of missing values was suspicious. Reasons could vary between facts that had to do with the item itself, with the picture in relation to it if any, with instructions or something else. (5) Not expected answers, i.e. answers that did not fit in the context apparently. It happened that some answers given did not have anything to do with the item tested nor with the instruments used. The job was to see whether they were embedded in the test itself, the picture, the instructions or whether they were due to external factors. The interpretation of the scores in general depended on a thorough understanding of each task in terms of the way it was constructed and responded to by the children.

3.2 Validity analysis

The results will be presented per task. For each task, the scores of grade 1 children will be presented first, followed by those of grade 8 children. Tables given will afford quantitative results, followed by qualitative analyses and comments. At the end of each task analysis, changes and improvements will be discussed, with a summing up of the final version of the task in question. The analysis of each task will follow more or less the same pattern.

3.2.1 Plural formation

Grade 1 children

Table 3.2 presents the scores on the plural task for grade 1 children. Scores are presented per type as operationalized in Chapter 2. Due to the small number of items per type, some types were merged with each other ones, such as type 1 and 2 masculine items, and type 3 masculine and type 5 feminine items.

Table 3.2: Scores on the types of the plural formation task for grade 1 children in Morocco

Types		N items	Mean	%	S.D.	Mode	Median	Skewness
1-2	Masculine *-en/an*	10	9	90	0.14	10	9	-0.71
4	Feminine *-in*	5	4	80	0.14	5	4	-0.98
3-5	Masculine *-awen/ayen* Feminine *-win/-tin*	9	7	77	0.15	8	7	-0.67
5	Irregular forms	5	4	80	0.14	5	4	-1.25

The children's scores were high, both on the task at large and on the sub-tasks. This is shown by the high percentage of correct answers, the mean, the mode, and the median. The scores were negatively skewed, and revealed to be easy for the children.

On the whole task, the minimally realised score was 13 items correct (out of 29), scored once. 3 children got the maximum score of 29 items correct. In general, 75% of the scores were above 21 items correct. The scores on the subtasks did not seem to differ from each other. Children performed more or less the same on all types. Yet 1 child got a zero score for the irregular nouns, which did not happen with the other types. Most of the children got all 5 items in this type correct.

In terms of the contents of the task, given the quality of the answers for each item, four categories of answers are distinguished.

1. Use of hypo/hypernymes: Some children gave other plurals than the ones required, like *iyenduzen* (calves) instead of *ifunasen* (cows) for the singular *afunas*, *iserdan* (mules) or *iɣyar* (donkies) instead of *iysan* (horses) for the singular *yis*. According to the instructors, children are more acquainted with *iyenduzen* (calves) than with *ifunasen* (cows) and *iserdan* (mules) or *iɣyar* than *iysan* (horses). Except for the plural *iɣyar*, the alternatives given realize the plural in the same way as the others, by transforming initial *a-* into *i-* and suffixing *-an* to the stem. These words were accepted as correct, and will be considered as such in the main study.

In the same line, the word *fiɣer* (snake) got few answers as *tilefsiwin* (viper), which already exists on the list. The 2 words realize the plural in 2 different ways. The first word is masculine, taking *-an* as a suffix, and the second one is feminine, taking *-win* as a suffix. They were not considered as being alternatively correct. Both items were maintained in the standard task for the main study. The word *bnadem* (person), an irregular noun with the plural *iwdan*, got answers like *iryazen* (men). The latter is a frequently used word. The 2 words were not considered as substitutes of each other. The item *bnadem* was kept for the final task version. The last item to be discussed here is the word *fud/ifadd-en* (knee), which had 1 answer as *iḍarn* (feet). The 2 items differ totally from each other. Besides, the first one is not a very frequent one, while the latter is. Both items are maintained in the task.

2. Dialect variation: One of the threats to validity is the dialect variation factor. The pilot study was meant to control for this factor. The word *tburjet* (window) was the

only one that happened not to belong to the chosen target language variety. The test instructors revealed that the word for window in this variety is *lkazi*. This was certainly the reason behind the high number of non-responses (35%). The word *lkazi* (window) replaces the word *tburjet* in the final version, even though the 2 words belong to different categories. The word *tburjet* realizes the plural by means of the suffix *-tin*, whereas the second word *lkazi* has an irregular plural form.

3. Synonyms: The word *amezyan* (small) happened to have another synonym in the chosen variety as *abezzuḥ*, the plural of which is *ibezzuḥen*. The 2 words realize the plural in the same way, by the suffix *-en*. No change was required at this level, and both answers were accepted as correct. The word *taddart* (house) got 20% of the answers as *tiddura*, instead of the expected *tudrin*. Instructors revealed that *tiddura* is not a very common form, at least among adults, but it is a correct plural form. The word *taddart* was therefore kept in the final task version. The word *adrar* (mountain) resulted in 9% of the answers as *tiɛurar* (mountain), the plural of *taɛrurt*. This is another synonym for *adrar*. The 2 words belong to the irregular type. The answer *tiɛurar* was considered to be a correct alternative answer. The original word *adrar* was kept.

4. Not expected answers: Many of the realized plurals seem to have nothing to do with the tested items. These words are *almahraz* (masher) for *abercan* (black), *kitab/kitabat* (book/books) for *tacemlalt* (white), *kawkabun*, the Standard Arabic word for *planet*, instead of *iɣzar* (river). However, these answers were given by no more than 3 children. In any way, these answers were prompted by the pictures used. For the first 2 words, the pictures contained a black masher and a white copy book, respectively. The items tested were *abercan* (black) and *acemlal* (white). The children seemed to put more focus on the concrete objects or contents of the pictures than on the abstract characteristics (the word said) describing the objects. These 2 words were excluded from the final task. For the third item *iɣzar* (river), the picture had a frame in the form of a rounded ball, looking like a planet. This picture was remade without a frame, and the river stream was clearly shown in blue. The other changes have to do with the 2 items *ul* (hart) and *iri* (neck). They obtained the lowest correct scores with 60% and 56%, respectively. Besides, they got a large number of non-responses. This was probably due to the nature of the concepts expressed in the 2 forms, in relation to the age of grade 1 children. As concrete objects, they do not mean much to the children at this age. The items belong to type 2 of masculine nouns, taking the suffix *-wen/-yen*. They were eliminated from the task.

The instructions used for the conduction of the tasks revealed to be efficient, leading to the targeted answers. No changes were made at this level. To sum up, the final task of plural formation contains 4 items less than the task used in the pilot study. Items

excluded are 1 regular feminine item *tacemlalt* (she-white), 1 regular masculine item of type 1 *abercan* (black), and 2 regular masculine nouns of type 3, i.e. *ur* (hart) and *iri* (neck). The final version of the plural task contains 25 items in total. As to the categorization of types, types 1 and 2 of masculine nouns as described above are merged under 1 type. As such, the final task comprises 5 types. Types 1 and 2 of masculine nouns include plural nouns, taking the suffix *-en/-an* for type 1 and the suffix *-wen/yen* for type 2. In the same way, feminine nouns are categorised into 2 types, the first one including plurals with *-in* suffix, and type 2 plurals with *-win/-tin*. Type 5 includes irregular plurals. The items are listed in the final version in an ascending order, beginning with the item that got the highest number of correct scores, i.e. *mucc* (cat). The last word in the list is the newly adjusted word *lkazi* (window).

Grade 8 children

The results of grade 8 children in the Netherlands are presented in Table 3.3 and those of children in Morocco in Table 3.4. The task consists of 32 items, spread over 6 types, as has been explained in Chapter 2. Similar to the tasks for grade 1 children, some tasks are merged with each other in order to obtain one score.

Table 3.3: Scores on the types of the plural formation task for grade 8 children in the Netherlands

Types		N items	Mean	%	S.D.	Mode	Median	Skewness
1-2	Masculine *-en/an*	18	5	27	4.00	–	4	0.78
4	Femenine *-in*	4	1	25	0.86	1	1	0.42
3-5	Masculine *-awen/-ayen* Feminine *-win/-tin*	7	1	14	1.00	–	–	1.83
6	Irregular forms	6	2	33	1.80	–	1	1.38

Given the mean, mode, and median, the scores of the group were very low. The scores were positively skewed. Masculine nouns of type 1 scored the highest. Deviations from the mean were high. The other types had nearly bottom scores. 16 out of 17 children scored 0-15 items correct out of 32 items, and 1 child scored 28 items correct. 75% of the children scored below 12 items correct. This gives the impression that the task was very difficult for the children in the Netherlands.

Table 3.4: Scores on the types of the plural formation task for grade 8 children in Morocco

Types		N items	Mean	%	S.D.	Mode	Median	Skewness
1-2	Masculine *-en/an*	18	14.0	77	1.28	13	13.5	-0.61
4	Femenine *-in*	4	3.57	75	0.53	4	4.0	0.42
3-5	Masculine *-awen/-ayen* Feminine *-win/-tin*	7	4.0	57	1.04	4	4.0	-0.38
6	Irregular forms	6	5.0	83	0.50	5	5.0	-0.52

The performances of grade 8 children in Morocco were very high. They showed the opposite pattern of the group in The Netherlands. The minimally realised score was 22 items correct on the whole. The maximally achieved score was 30 items correct. 50% of the children scored above 26 items correct. 11 items in the task got 100% correct scores. The item *fud* (knee) got the lowest score, with one correct answer only. The outcomes lead to the conclusion that the task is within the capacities of the children in Morocco. From a qualitative perspective, the task underwent some changes at the following 2 levels:

- Exclusion of items: 5 items were excluded from the final task because of the very low scores obtained. These are *aɣenja* (ladle), *adan* (intestines), *icarri* (sheep), *aɣil* (arm), and *tasraft* (silo). These are not frequent items in the Netherlands, and even in Morocco, some of them like *adan* are hardly used in the plural form;
- Inclusion of new items: Given the fact that the children in the Netherlands had difficulties with the task, 5 new simple items were introduced at the beginning of the final task. These items are *tiṭ* (eye), *fus* (hand), *taḥenjirt* (girl), *taziyyat* (bottle), and *aryaz* (man). These items are frequently used in the daily life of the children, both in Morocco or in the Netherlands. The intention behind introducing them in the final task is to smoothen the beginning stage of the task for the children in the main study, and to give them some self-confidence. The total number of items in the task did not change. Thus the final task comprises 32 items. The items were listed in an ascending way, starting with he easiest item *tiṭ* (eye), a newly introduced item, which is very frequently used in the plural form.

Categorization of the task was changed with respect to masculine nouns, in that type 1 masculine nouns include items taking the suffix *-en*, while type 2 masculine items comprise nouns ending with *-an/-wen* in the plural. No change took place with respect to feminine and irregular nouns.

3.2.2 Case marking

Grade 1 children

The case marking task was developed later than the other tasks. It was conducted with 11 children of grade 1. The results are presented in the form of the total score in Table 3.5.

Table 3.5: Scores on the case marking task for grade 1 children in Morocco

	N items	Mean	%	S.D.	Mode	Median	Skewness
Case marking	10	8	80	1	8	8	-0.53

The mean, mode, and median revealed a high performance of the children in this task. The minimal score was 6 items correct out of 10, and the maximum score was 9 items.

The few errors made were due to one of the following reasons. First, the instructor happened to give the answer while asking the question. For example, in item 11, the question was *mani itteg uḥenjir kamyun?* (where is the boy putting the lorry?). The instructor trying to guide the child said *x ts* ..., and the child finalized the sentence with *t-senduqt* (box). The instructor did not realize that he had already presented the answer to the child, by using *ts*... of *tsenduqt* (box), deleting the vowel, resulting in the correct construct state. This happened 3 times. Secondly, children used alternative words instead of the expected ones such as *i memmis* (to his son), *memmis* being an invariable noun which takes only the free state instead of *i uhenjir* (to the boy) which has the construct state (*aḥenjir-uḥenjir*). This happened twice. Thirdly, the child answered by using another verb than the given one, which does not need a preposition. In this case the noun should be used in the free state, as in *iḥeṭṭa aɣerda* (watching the mouse), with *aɣerda* in the free state, instead of *isruggub x uɣerda* (peeking at the mouse), with *uɣerda* in the construct state, because it is preceded by the preposition *x* (for). This happened once. These type of errors are to be avoided in the main study by informing the instructors more about these issues.

In general, few other alternative answers were given by the children. The words *teḥrant* (girl) and *weḥram* (boy) were given instead of *tḥenjirt* (girl) and *aḥenjir* (boy), respectively. The alternatives given were correctly put in the construct state. Another given alternative for the same word was *illis* (her daughter). This noun has only a free state form, and no construct form. Instead of the word *userdun* (mule), the children answered with the synonyms *ukidar* (mule) or *uɣyul* (donkey). Both of them were put in the correct construct state.

No changes were brought to this task. The final version of the task contains the same items as the ones used in the pilot study, i.e. 10 items taking the construct state and 5 items taking only the free state.

Grade 8 children

The results of grade 8 children on the task are split up into 2 categories, i.e. the construct form when the noun occurs after a preposition or after a verb. The results of the group in the Netherlands and the ones in Morocco are presented in Table 3.6.

Table 3.6: Scores on the case marking task for grade 8 children

Grade 8 children	Context	N items	Mean	S.D.	Mode	Median	Skewness
Core group	prepositions	13	2	2.3	–	2	1.13
	verbs	8	1	1.2	–	1	1.00
Reference group	prepositions	13	10	1.1	10	10	0.24
	verbs	8	5	1.2	6	6	-1.14

The performance of the children in the Netherlands was very low in general. A score of zero (no items correct) was attested four times, while the maximum score of 9 items

correct was achieved only once. Most of the errors were made by assigning the free state to the noun instead of the construct state, except in the sentence *inya x uyis* (he mounted a horse) where half of the results were in the free state and half in the construct state. However, the construct state given consisted of other words, i.e. *uɣyul, userdun, ukidar.* The word *fud* (knee) was used once in the free state, and 3 times in the correct construct state. In other 5 times the construct state of the word *ḍar* (foot) was given instead. However, this word was maintained for the main study. The score in general was positively skewed. About 75% of the children had one item correct out of 20, and 25% had between 5 and 9 items correct.

The scores of the group in Morocco were high. 12 items out of 20 got a 100% correct score. 2 words only got low scores, i.e. *tarya* (canal) and *tmellalin* (eggs), which both got 62% false answers. The first word appeared after a preposition, and the second one after a verb. The minimum score was 11 items correct, and the maximum score was 16 items correct. More than 75% of the children scored more than 13 items correct. These outcomes show that the low scores of the children in the Netherlands were not due to facts related to the task itself, such as the form of the task, the way in which it was conducted, the instructions used or the items chosen, but related to the low language proficiency level of the children.

Two items were excluded from the final version. First, the word *iles* (tongue) was too difficult to conduct in combination with its picture. Second, the word *ayrad* (lion) is not a frequent item, compared to the equivalent *sbeɛ* (lion), which has only a free state form. The final version contains 26 items, 19 bearing a construct state (6 with verbs and 13 with prepositions) and 7 invariable nouns which take always the free state.

3.2.3 Gender-number distinction

Grade 1 children

The gender-number distinction task for grade 1 children consists of 2 parts, one on masculine inflections and the other one on feminine inflections. The task is made up of 13 items in total. Table 3.7 gives the outcomes of the pilot study.

Table 3.7: Scores on the gender-number distinction task for grade 1 children in Morocco

Gender	N items	Mean	%	S.D	Mode	Median	Skewness
Masculine	4	3.62	90	0.71	4	4	0.35
Feminine	9	8.62	95	0.75	8	9	-1.78

This task resulted in ceiling scores, both in terms of the whole task and its subparts. The mean, median, and mode were very close to the top score. The scores were between 11 and 13 items correct. 5 children scored 11 items correct (out of 13), 11 children scored 12 items correct, and 25 children got the maximum score of 13 times correct. The qualitative analysis led to the following outcomes.

1. Second person forms: They resulted in higher percentages of non-response. The instructors reported that second person references were problematic. The children were addressed as *cek/cem* (second person masculine singular and second person feminine singular, respectively) and had to finish the sentence using the pronoun just heard and to put the verb in its suitable form, i.e. with the proper agreement markers of person and gender. Yet, when they were addressed as *cek* (you) for instance, they answered with *necc* (I), first person singular form. It appeared to be too difficult for children of this age to understand the role game. For this reason, second person forms were removed from the final version, and only third person inflections were tested.

2. Picture book: The task was conducted as a productive task without pictures. Although the children did not show real problems with the task as such, it was felt that it would be better to conduct the task with a picture book. This would present children of this young age with a concrete object which they would handle much more easily.

3. Mode of conduction: The task was conducted as productive. Instead, it was changed to a receptive one in the final version. It was noticed that it was too tiresome for a child to be submitted to four productive tasks during testing. At least 1 task had to be conducted as receptive, together with the word order task. As such, the conduction of the 5 tasks could alternate between productive and receptive. More information about the task conduction procedure is presented in Chapter 7.

4. Omission and addition of verbs: One verb was omitted from the task, i.e. the verb *ggur* (walk).The new verbs added to the list are *sɣuyyu* (shout), *ḍḥec* (laugh), and *ru* (cry). The first verb is used in the third person plural feminine, realised as *sɣuyun-t* (they-are-shouting), and the second one is used in the third person singular feminine, realized as *ḍḍeḥḥec*. The third verb *ru* (cry) is used in the third person plural masculine, realised as *t-t-run* (they-are-crying); it begins with /*t*/, indicator of the imperfective.

The final task comprises 15 verbs, with 3 new ones, while 1 old item was omitted. The focus of the task changes to third person forms, excluding second person forms. The number of cases tested are 5 for masculine inflections, and 10 for feminine inflections. The task will be conducted as receptive with a picture book. Elaboration on the methodology is given in Chapter 7.

Grade 8 children

The results of grade 8 children are presented below. Table 3.8 deals with masculine agreement inflections, Table 3.8 with feminine agreement ones. These 2 cases include verbs in the affirmative form. Table 3.10 includes non-agreement cases, where the verbs

take the participle form. Both the scores of the groups in the Netherlands and in Morocco are presented within each table.

Table 3.8: Scores on masculine inflections for the gender-number distinction task for grade 8 children

Grade 8 children	N items	Mean	%	S.D.	Mode	Median	Skewness
Core group	4	2.94	73	0.9	3	4	-0.45
Reference group	4	3.38	84	1.4	4	4	-2.52

Both groups scored more or less close to the maximum. Most children of the 2 grades scored correct on this subtask. The task was much easier for the group in Morocco. This is why few items from this category were included in the final task.

Table 3.9: Scores on feminine inflections for the gender-number distinction task for grade 8 children

Grade 8 children	N items	Mean	%	S.D.	Mode	Median	Skewness
Core group	11	5	45	2.4	4	4	0.21
Reference group	11	9	81	3.7	11	10	-2.18

The difference in performance between the 2 groups with respect to feminine inflections is very clear. The group in the Netherlands scored far below the group in Morocco. 75% of the children in Morocco scored above 7 items correct (out of 11 items). Within the group in the Netherlands, 50% of the children scored lower than 4 items correct. The individual results were more close within this group than within the group in Morocco, as the standard deviations indicate. With respect to the difficulty degree, skewness shows that the task was easy for the group in Morocco, and to a lesser extent for the group in the Netherlands.

Table 3.10: Scores on participle inflections for the gender-number distinction task for grade 8 children

Grade 8 childrem	N items	Mean	%	S.D.	Mode	Median	Skewness
Core group	14	4	28	3.15	2	2	0.74
Reference group	14	9	64	5.45	14	10	-0.85

This sub-task appeared to be more difficult than the previous ones for the group in the Netherlands. The children happened to use subject-verb gender and number agreement as a rule of thumb. Both the mode and the median were very low. The group in Morocco did not behave in the same way, and used the participle forms. The discrepancy between the 2 groups is clear when comparing the mean, the mode, and the median of both groups. This sub-task is positively skewed for the group in the Netherlands, and negatively skewed for the group in Morocco.

In general, the items used for the task seemed to work good as expected. There was thus no need to omit or adjust items. Slight changes were introduced, however. This

concerns first the number of items of the task, which is reduced with 1 item, namely item 10. This was done to make the number of items of the task even. The total number becomes 28 in the final version of the task. Second, item 13, i.e. the verb *uyur* (move) was replaced with the verb *ndeh* (riding/driving) in order to fit the picture more properly.

3.2.4 Person inflection

This task was conducted only with grade 1 children as stated in Chapter 2. Thus the analysis of the task will be restricted to this group only.

Table 3.11: Scores on personal inflections for grade 1 children in Morocco

	N items	Mean	%	S.D.	Mode	Median	Skewness
Person inflections	16	15	93	1.87	16	16	-1.82

The maximum score was almost reached in this task. The children showed no problems in using the correct inflections with the corresponding persons. 57% scored the maximum score. The lowest score was achieved by 1 child with 8 items correct. 3 children got 11 items correct, and 3 children got 12 items correct.

In the same way as in the task on gender and number agreement, verbs inflected for first and second person prompted a higher number of incorrect answers, caused by using the inflection of another person form than the one required. When the child heard the instructor using the first person *necc* (I), meaning that the child had to inflect the verb with the first person morpheme, s/he put the verb in the second person instead, with second person inflections.

Finally, it was decided to exclude the whole task from the final test. The task is in fact more or less the same as the task of gender and number agreement (task 2). In a way, both tasks test the same inflections in relation to specified personal forms. As such, there is no need to have a double task.

3.2.5 Perfective formation

Grade 1 children

The perfective task comprises two categories. Basic verbs do not change form in the perfective when taking the aorist as a starting point, and non-basic verbs do change form. The verb forms presented to the children were not in the aorist form, as already explained in Chapter 2. The results are presented in Table 3.12.

Table 3.12: Scores on the perfective for grade 1 children in Morocco

Verbs	N items	Mean	%	S.D.	Mode	Median	Skewness
Basic	7	6	85	1.5	7	6	-1.83
Non-basic	11	9	81	1.7	10	9	-3.10

The performance of the group in general was high. Basic verbs scored slightly better than non-basic ones. This is not because this category does not change form. The children did not get the verbs in the aorist, but either in the future or in the present tense. Thus, the children had to change the form to the perfective anyway. Yet, there was no difference in performance between the 2 categories. 40% of the children got a score of 10 items correct (out of 11). A score of zero was obtained once. The distribution of the scores, based on the skewness coefficient, shows that the group had no difficulty with the task. From a qualitative perspective, the following remarks are noteworthy.

1. *Use of the verb kemmel*: The verb *kemmel* (finished) was frequently used, sometimes in good contexts and sometimes not. The use of this verb as response instead of the given verb was accepted when fitting in the context. 9% of the answers with *tkemmel* (she-finished) was not fitting as answer. To avoid answers with *kemmel* (finished) in the main study, test-takers were instructed to ask the children to answer with the given verb rather than to accept answers with *kemmel*.

2. *Matching between picture and reponse*: For the picture with a woman wearing her shoes, many of the answers got were as *tyireḍ iharkusen* (wore the shoes). Few answers were as *teqqen iherkusen* (put on the shoes). The verb *qqen* is the form used for wearing shoes. The verb *ireḍ* (wear on) is used with clothes. In order to avoid any confusions, the verb *irḍ* was kept, while the picture was changed to a man wearing his blouse.

3. *Dialect difference*: The verb *γez* (dig) got a non-response of 18%. This verb happened not to be used in the variety in question. Instead the verb *ḥfar* is used in the final task.

The final version of the task did not undergo any more changes apart from the ones just stated. It contains the same number of verbs (18), with the same distribution between basic and non-basic verbs as in the pilot study.

Grade 8 children

The results of grade 8 children are distributed over affirmative and negative forms with respect to both categories of verbs, i.e. basic and non-basic verbs. In Table 3.13 the scores on basic verbs are presented, followed by the ones on non-basic verbs in Table 3.14.

Table 3.13: Scores on the perfective of basic verbs for grade 8 children

Grade 8 children	Form	N Items	Mean	%	S.D.	Mode	Median	Skewness
Core group	affirmative	14	9	64	3.24	9	10	-1.27
	negative	14	3	21	3.03	1	2	0.69
Reference group	affirmative	14	12	85	0.76	13	12	-0.59
	negative	14	11	78	1.35	12	11	-0.35

With respect to basic verbs, the means for both groups in the Netherlands and Morocco were above the average in affirmative forms. The scores of the reference group in Morocco were higher. On the negative forms, the scores of the group in the Netherlands were far below the scores on the affirmative forms. The affirmative forms appeared to be easier. The group in Morocco scored similarly on both the affirmative and negative forms. From a qualitative perspective, the following can be stated.

1. Dialect difference: The verb *siḍ* (go around) does not belong to the target dialect. For this reason, the verb was replaced with *weddar* (get lost). The verb *raḍ* (go) was given instead of phonologically from each other, in conformity with the dialects they belong to. Children in Morocco used both forms. It is difficult to say which form belongs to the dialect in question. In any way, it was decided to use both forms in the task.

2. Alternative correct answers: Some alternative verbs, to the expected ones, were given in the perfective. This concerns the verbs *dfeɛ* (push)/*ur dfiɛ* (not pushed) instead of *ɛarn* (push), and the verb *ekk* (pass by) instead of the verb *ɛda* (pass by). The alternatives given belong to the same category of verbs with the same morphological form, and are the same in the perfective in both the affirmative and negative forms. As such, they were considered as correct, and no changes were made at this level for the final task.

Table 3.14: Scores on the perfective of non-basic verbs for grade 8 children

Grade 8 children	Form	N items	Mean	%	S.D.	Mode	Median	Skewness
Core group	affirmative	11	5	35	2.80	4	5	-0.24
	negative	11	2	14	1.69	1	2	1.46
Reference group	affirmative	11	10	71	1.21	11	10	-0.41
	negative	11	9	64	0.76	9	9	-0.59

The scores on the non-basic verbs were clearly different between the affirmative and negative forms on the one hand, and between the groups in the Netherlands and in Morocco on the other hand. The scores of the latter group were not divergent from each other, as was the case with the scores of the group in the Netherlands. In the negative form, the scores obtained were extremely low for grade 8 children in the Netherlands.

Qualitatively speaking, there is one remark to state with respect to the correct alternative answers given. For the verb *aley* (get on/go upstairs), the verb *geɛɛed* was given as it is used in Nador. For *ayem* (bring water from a well), the paraphrasing *isi aman* (carry water) was used instead. In terms of unexpected answers, a few children in the Netherlands confused the verb *aley* (get on), pronounced *arey*, with the verb *ari* (write), and gave the perfective of the last verb. This did not occur with the children in Morocco. The 2 verbs were maintained in the final task.

The final version of the task was shortened from 25 to 18 items. The verbs omitted belong to the category of basic verbs: *ḍhar* (appear), *sesswa* (irrigate), *ɛeda* (pass by), *ixḍar* (choose), *raḥ* (leave), *ttu* (forget), and *zu* (bark). Besides, the personal forms in which the verbs were put were simplified. In the pilot study, different forms were used. In order to make the test procedure easier for the children, a standard form is used in the final version. All verbs are to be put in the third person singular form, in both the affirmative and negative.

3.2.6 Word order construction

Grade 1 children

Word order was the only one task conducted as receptive. The children had to choose a correct answer, in accordance with the sentence they heard, by indicating the corresponding picture out of 3 pictures. The results presented in Table 3.15 are categorised per word order type, i.e. SVO, VSO, and OVS.

Table 3.15: Scores on the word order task for grade 1 children in Morocco

Word order	N items	Mean	%	S.D.	Mode	Median	Skewness
SVO	6	4.20	70	1.07	4	4	-0.87
VSO	6	4.06	67	1.03	5	4	-0.26
OVS	6	4.00	66	0.91	4	4	-0.19

The scores of the children are above the mean for all 3 types of word order. 77% of the children scored 4 times correct or higher (out of 6 sentences) for SVO sentences, 72% above the mean of 5 for VSO sentences, and 60% above the mean for OVS sentences. The maximum scores were realized by 4 children in the first type, by 2 children in the second type, and by 1 child in the third type. The lowest score of 1 item correct was realized twice for SVO, 2 items correct were achieved by 3 children for VSO, and the same number of correct answers was realized by 4 children for OVS. The mode and the median do not differ from the mean, except for the VSO type, in which a mode of 5 was scored. All word order types were negatively skewed, i.e they were easy for the children. SVO order was the easiest, followed by VSO, and finally OVS.

A qualitative analysis of each word order type is presented below. The answers were categorised in 3 types. 1 type was categorised as correct, when the child pointed to the picture showing the right agent of the action, i.e. the right subject of the sentence. The other response was categorised as alternative answer, when the children happened to indicate the direct object as the subject of the sentence. The last answer category was categorised as wrong, when the child indicated the picture without any action at all, given the fact that all verbs used were transitive verbs.

SVO sentences

The highest score for this word order was realized with respect to the sentence *tafunast tɛarrn Malika* (the cow is pushing Malika), with 85% correct. 2 children pointed to the alternative picture and 7 children gave totally wrong answers. The lowest scores were obtained with respect to the sentence *Ali yisi Farid* (Ali is carrying Farid) with 42% correct answers, and 53% alternative answers, i.e. pointing to the picture where Farid is carrying Ali. The reason for incorrect answers in this simple word order is that the children were confusing the 2 boys. In the presented pictures, the 2 boys were to be distinguished by their clothes, and despite the fact that the instructor explained beforehand who-is-who, it seemed not clear enough for many children. For the main study, the pictures were improved and the 2 boys were distinguished by their clothes as well as by their facial colours, i.e. 1 boy with a coloured face and the other one with a white face.

The sentence *tafunast ttebbeɛ tamɣart* (the cow is following the woman) obtained 53% correct scores, and 33% alternative ones. The correct picture showed a cow following a woman. The sentence was put as such deliberately. It was decided to maintain the sentence as it was in the main study. However, one sentence in this part of the task was excluded from the main task, namely *mucc itḥada aqzin* (the cat is touching the dog), even with 73% correct answers on this sentence. The first reason for this decision was that the picture was not clear enough in showing the action of touching. Second, touching itself does not stand for a clear type of action.

VSO sentences

The highest score was realized with respect to the sentence *itguwwad Farid babas* (is-leading-(the hand) Farid his father), with 89% correct. The lowest scores were obtained with respect to three sentences. The first one was *teɣder Malika Aicha* (pushed Malika Aicha), with only 22% of the children pointing to the correct picture, 56% to the alternative one with Aicha pushing Malika, and 13% to the totally wrong picture. Similar to the SVO sentences mentioned before, the 2 girls were apparently not distinguishable enough for the children. The pictures were worked out by distinguishing between the 2 girls on the basis of facial colour, i.e. 1 girl with a white face, and the other one with a coloured face. The same can be said about the second sentence *teṭṭef Malika Aicha* (caught Malika Aicha), for which 60% of the children scored correct, 33% pointed to the alternative picture, and 7% to the wrong picture. The same changes were brought to this picture as to the one before. For the third sentence *tessekker Aicha tamɣart* (woke up Aicha the woman), 62% scored correct, 22% gave the alternative answer, and 13% pointed to the (totally) wrong picture. Actually, this last score was subject to suspicion. The picture the children pointed to contained a girl and a woman standing up next to a bed. It is assumed that many children thought that this was also the good answer, because the girl has woke up the woman and now both of them were standing up. To correct this situation, a new

picture representing the wrong answer in the final task version contains no persons at all, just a bed. Thus, the child has to choose between this picture, another one with a girl waking up a woman, and a picture with a woman waking up a girl. The sentence *yuta Ali aɣyul* (hit Ali the donkey) got a high correct score of 87%, 5% as alternative, and 13% as wrong. This last score drew the attention. The verb *yuta* (hit) is a very frequent one for children, similar to the name *Ali* and the object *donkey*. This is a very simple sentence, and yet 13% or 7 children pointed to the picture without any action at all. The very probable explanation is that the verb *yuta* (hit) was used in the perfective in the sentence, implying that the action was finished. Accordingly, the sentence *the boy hit the donkey* was interpreted as describing an action in the past, meaning that there is no action taking place at the present time. Because the other 2 pictures showed indeed the action of hitting, and the third picture no action at all, i.e. the donkey and the boy standing next to each other, these 13% of the children pointed to this last picture as the correct one. This situation was corrected for the final task version by putting the verb in the imperfective, i.e. *yeccat Ali aɣyul* (he-is-hitting Ali the donkey).

OVS sentences

The highest scores were achieved for the sentence *taḥenjirt tutitt tcamma* (the girl hit-her the ball: the girl was hit by the ball) with 84% as correct, 11 % as alternative, and 2% as wrong. The lowest score was obtained for the sentence *tafunast tjarrit ṭṭumubin* (the cow is-pulling-it the car: the cow is being pulled by the car). 22% of the children scored good, 60% pointed to the alternative picture as good, and 18% gave a wrong answer. The fact that so many alternative answers were given rose many suspicions about the sentence. This becomes clear when the sentence *tafunast tjarrit ṭṭumubin* is spoken in a normal tempo. An assimilation process takes place between /*t*/ at the end of the verb and /*ṭ*/ at the beginning of the noun coming after *ṭṭumubin*, resulting in what may sound as *tafunast tjer(i)-ṭṭumubin*, and interpreted as the cow is pulling the car. It is thus assumed that the children with the alternative answers might have perceived the sentence as SVO. This sentence was omitted from the task for the main study.

In sum, the task for grade 1 children contains two sentences less than the pilot task, by excluding 1 sentence from the SVO category, and another one from the OVS category. In total, the final task is made up of 16 sentences, i.e. 5 as SVO, 6 as VSO, and 5 as OVS.

Grade 8 children

As explained before, this task was conducted as a productive one. It contains 3 types of questions that the children had to answer with the support of a picture book. Below, a detailed analysis of the results on each word order type will be given. In this task, the content of the sentence is not important, but rather the word order in which

the sentence is formulated. The number of participating children in the Netherlands was 17 and in Morocco 7.

Table 3.16: Scores on questions of type I for grade 8 children

Grade 8 children	N items	Mean	%	S.D.	Mode	Median	Skewness
Core group	9	7	78	2.02	8	7	-1.18
Reference group	9	2	22	3.20	–	1	3.20

The question *min itteg X?* (what is X doing?) was expected to result in SVO patterns. The first remark concerns the discrepancy between the scores of the groups in the Netherlands and in Morocco. The latter group scored much lower. 78% of the answers of grade 8 children in the Netherlands had SVO order, as opposed to 22% for the group in Morocco. This is primarily because most of the answers given by grade 8 children in Morocco were without a subject. Such answers were not counted, and considered as missing. To avoid such answers in the main study, it was decided to insist on the instructor to ask children for complete sentences, consisting of at least a subject and a verb.

For the main study, the formulation of the question for SVO types was kept as it is. Eight questions in the form of *min itteg X?* (what is X doing?) were used in the final task version.

Table 3.17: Scores on questions of type 2 for grade 8 children

Grade 8 children	N items	Mean	%	S.D.	Mode	Median	Skewness
Core group	12	–	–	–	–	–	-0.77
Reference group	12	0.42	0.35	0.78	–	0.33	1.70

Type 2 questions were formulated as *min ttwalid da?* (what do you see here?), and they were expected to result in VSO sentences. Yet, this was not the case at all, neither for the grade 8 children in the Netherlands, nor for the ones in Morocco. The total scores were nihil. In fact, all answers had SVO word order. Type 2 questions do not automatically result in sentences with VSO word order as thought. Accordingly, this type of questions is left out from the final task.

Table 3.18: Scores on questions of type 3 for grade 8 children

Grade 8 children	N items	Mean	%	S.D.	Mode	Median	Skewness
Core group	14	3	21	3.12	–	1	1.03
Reference group	14	8	57	2.30	8	8	0.90

Type 3 questions were formulated as *x min d as igga y?* (x, what did y to him?), expected to result in answers with OVS order. The formulation of the questions as such puts focus on the complement at the head of the interrogative sentence. The answers to this question were expected to start with the complement (O), followed by

the verb (V), suffixed with the bound anaphora /*t*/, and with the subject (S) in the final position.

21% the children in the Netherlands answered indeed with sentences in OVS order. 1 child happened to answer 9 out of 14 questions with sentences having OVS order. Most of the other given answers were in the form of SVO. In many cases, the children started with the complement, and changed their mind afterwards by pulling the subject to the initial position, resulting in SVO order. OVS order seemed to be a complicated structure for the children in the Netherlands.

The children in Morocco were more successful in formulating OVS sentences, with 57%. The highest score of 12 sentences with OVS order (out of 14 items in total) was reached once. The lowest number of answers with OVS order was 5, obtained once. SVO sentences appeared less. The scores of grade 8 children in Morocco indicate that type 3 questions used here should indeed result in answers with OVS order. For the final task version, 12 questions of this type were maintained.

To conclude, the final version contains 20 questions, 8 ones of type 1, aimed at triggering SVO answers, and 12 questions of type 3, aimed at triggering OVS answers.

3.3 Conclusions

The results as reported in this chapter led to many modifications in the final test as a whole. The one task of person inflections was left out, while the other tasks were maintained. The final test comprises five tasks, i.e. (1) plural formation, (2) case marking, (3) gender-number distinction, (4) perfective formation, and (5) word order construction. The tasks for grade 1 children are presented in Appendix 1, and the ones for grade 8 children in Appendix 2. The tests as a whole seemed to be too long and tiresome for the children. For the main study it was decided to conduct the tests for both grade 1 and grade 8 children in 2 parts, separated with few hours between each part.

CHAPTER 4

Sociolinguistic profile of the children of the main study

This chapter reports on the children taking part in the main study. Both the 2 core groups in the Netherlands, i.e. the children in grade 1 and grade 8, and the 2 reference groups in Morocco are presented. The criteria for selecting the core group children are as follows. (1) The mother tongue of both parents should be Tarifit. (2) At least one of the parents should originate from the central part of the Rif area, and thus speak the vernacular of this area. (3) The parents and the child should speak Tarifit to each other, at least before the child started going to school. The importance of this last criterion is to make sure that the child is/was actively using Tarifit.

Background data of the core groups of both grade 1 and 8 children were obtained by means of a questionnaire (see Appendices 3 and 4). The collected information is dealt with in 4 sections, i.e. personal information, family background, language profile, and language behaviour of the family, respectively.

The 2 reference groups in Morocco had to fulfill 2 criteria, i.e. living in the central part of the Rif and speaking Tarifit at home, preferably as the only language in this context. These 2 criteria go together in that if the children are of Berberophone parents, born and grown up in the central Rif area, they are almost automatically native speakers of Tarifit, and are not expected to speak another language, namely Moroccan Arabic. This last fact holds true for the youngest children who are not yet at school in Morocco. Grade 8 children are generally expected to have command of Arabic as a result of their school attendance. The information on the reference groups in Morocco concerns birth place, age, schooling, setting in Morocco, home language, language dominance, and father's profession. Mothers have generally no paid jobs outside home in rural areas in the Rif.

4.1 Grade 1 children

4.1.1 Core group in the Netherlands

A first decision in the sample selection concerned the setting of the study in the Netherlands. 2 locations were favoured, namely the cities of Gouda and Utrecht. Both of them are located in the urbanized centre of the Netherlands, and have a relatively high concentration of the Moroccan community. A number of schools were contacted in these 2 cities, of which 7 agreed to allow testing to take place with their pupils.

The selection of the research sample was based on a questionnaire, conducted with the children's mothers. Parents were informed about the study, about the ambition to interview the mothers, and about the contents of the questionnaire. Letters in both Dutch and Arabic were handed out to the parents through the schools, mostly directly to the mothers by the teacher of Arabic, if any, or by the teacher of the child's grade. For cultural reasons, the parents were informed that the interviews with the mothers would be conducted by female students. Besides, they were given the choice with respect to the location of the interview, i.e. at school or in their own homes. Interviews took place in a period of 5-6 months. Two female students conducted the task. Both spoke Tarifit as well as Dutch. This allowed them to communicate with the parents in either language. In the beginning, there were few positive responses to the letters. Most of the parents did not react at all, while others just refused. The task of the 2 students was then to have direct contact with the parents, and try to convince them of taking part in the study. They went to schools around the time the parents brought their children, in order to be able to speak directly to them. This face-to-face contact resulted in very positive responses, even from some of the parents who had refused at first.

Finally, the questionnaires were conducted with 51 parents, 48 times with the mothers as planned, once with the father, and twice with both parents at the same time. 34 interviews took place at school, 4 at the family home, and 13 through the telephone. This last method was only used with informants that were difficult to meet. The telephone method, unexpectedly, turned out to be successful, efficient, and time saving in data collection. After the application of the selection criteria, 31 children appeared to fulfill the requirements.

With respect to the first question, the interviewees were given the choice between speaking Tarifit or Dutch. 84% (26) of them chose Tarifit, 10% (3) Dutch, and 6% (2) both languages. During the interview, 81% (25) answered in fact in Tarifit, 16% (5) in Dutch, and 3% (1) in both languages. The selected children were 18 boys and 13 girls. They were aged between 4-5 years (13 ones) and 5-6 years (18 ones). The group's mean age was 4.86. All children were born in the Netherlands. 11 children were the eldest of their siblings, if they were not the only child in the family, 11 children were second-born, 7 ranked third, 1 as fourth, and 1 ranked as seventh child. 13 children had never been in a day-care centre before going to school. 18 children stayed in a day care centre for periods varying between 6 months and 3 years, i.e. 7 had been there for 1 year, 4 for 2 years, 2 children for 6 months, 2 for 18 months, 1 child for 9 months, and 1 for 3 years.

All children were in the first grade of primary school, 12 of them at 4 schools in Gouda, and 19 children at 5 schools in Utrecht. 2 schools in Utrecht had nearly exclusively a population of pupils of immigrant minority families, mainly of Moroccan and Turkish origin. Table 4.1 gives an overview of the schools and pupils.

Table 4.1: Number of selected pupils per school for grade 1 children

School	City	N pupils
1	Gouda	6
2	Gouda	2
3	Gouda	1
4	Utrecht	6
5	Utrecht	3
6	Gouda	3
7	Utrecht	3
8	Utrecht	3
9	Utrecht	4
Total		31

Family background

The family background of the children concerns their parents' migration history, educational background, and socio-economic status. The parents of the children were all born in Morocco. The mothers were aged between 23-39 years. 50% of them were aged under 30 years. As to the fathers, they were aged between 30-60 years, 50% of them were under 36 years. The parents have been living in the Netherlands for periods of time varying between 5-30 years. 50% of them were living in the Netherlands for more than 13 years.

As far as the educational background of the parents is concerned, most of them had low education. For the mothers, 14 had been at school for less than 1 year if at all, 8 had been in primary school (5 in Morocco and 3 in the Netherlands), 3 had attended secondary school in Morocco, and 3 had followed first primary school in Morocco, and afterwards secondary school in the Netherlands. 25 mothers had no school diploma, 1 mother had a baccalaureate (secondary school) certificate in Morocco, 1 mother had a Dutch MAVO diploma (general secondary vocational education), 3 mothers had Dutch LBO diplomas (low vocational education), and 1 mother had a Dutch MBO diploma (higher secondary vocational education).

The mothers' daily activities were mostly related to housekeeping. 24 mothers were housewives and not looking for a job outside the home, 3 mothers were housewives and looking for a job, and 4 mothers had a paid job, i.e. 1 at a day-care centre, 1 in the cleaning service, and 2 mothers in health care.

The educational background of the fathers was as follows: 10 had been at most for 1 year in primary school if at all, 9 had been in primary school (8 in Morocco, 1 in the Netherlands), 9 had attended secondary school (6 in Morocco, 3 in both Morocco and the Netherlands), and 2 had attended higher education (1 at the university in Morocco, and 1 in higher education in the Netherlands). 4 fathers had a secondary school certificate, i.e. 2 in Morocco and 2 in the Netherlands, and 1 father had a Dutch MBO diploma.

As to their jobs, 23 fathers had paid jobs, working in factories, in the cleaning service, as a carpenter and similar jobs, or an administrative type of job. 7 fathers had no job, and 1 was incapacitated.

Language profile

The language profile of the parents is made up of 4 reported dimensions, i.e. language proficiency, language preference, language dominance, and language attitudes. The following tables report on these dimensions.

Table 4.2: Reported (%) speaking proficiency in Dutch for the parents of grade 1 children

Parents	No/little	Fair	(Very) good
Mother	52	13	35
Father	23	34	43

Questions on language proficiency of the parents concern Dutch only. 11 mothers reported to have a (very) good proficiency in Dutch, 16 ones had no or little command of the language, and 4 ones had a fair level. The fathers had in general a better proficiency in Dutch, i.e. 13 fathers had a (very) good proficiency, 7 ones no or little command, and 10 a fair command.

Table 4.3: Reported (%) oral proficiency of grade 1 children in Tarifit

Proficiency	No/little	Fair	(Very) good
Understanding	–	23	77
Speaking	–	35	65

The mothers were asked to evaluate the proficiency of their children in Tarifit. With respect to understanding skills, 7 children were reported to have little or fair command, and 24 ones (very) good. With respect to speaking skills, 11 children were qualified as having little or fair mastery of the language, and 20 ones as (very) good.

Table 4.4: Reported (%) language preference of grade 1 children and their parents

Preference	Tarifit	Dutch	No preference	Other
Grade 1 children	16	68	16	–
Mother	74	13	13	–
Father	81	3	13	3

The language preference question included both the children taking part in the study and their parents. Most children appeared to prefer to speak Dutch, while the rest had preferences either for Tarifit or for both languages. The parents agreed in majority in their preference for Tarifit. There were 4 mothers and 1 father preferring Dutch. 1 father preferred Arabic, and the rest Tarifit.

Table 4.5: Reported (%) language dominance of grade 1 children and their parents

Dominance	Tarifit	Dutch	No difference	Others
Grade 1 children	23	42	35	–
Mother	80	10	10	–
Father	77	–	13	10

As to language dominance, more children were reported to be dominant in Dutch, followed by children with no difference in their dominance between Tarifit and Dutch. There were less children reported to be dominant in Tarifit.

As to the parents, most of them spoke Tarifit better than Dutch, with 80% for the mothers and 77% for the fathers. 10% (3 mothers) reported to be dominant in Dutch, and none of the fathers happened to be dominant in Dutch. 3 mothers and 4 fathers had no difference in their dominance. 3 fathers were reported to be dominant in Arabic.

Table 4.6: Reported (%) language attitudes of parents of grade 1 children

Language attitudes	Important	Neutral	Unimportant
Tarifit	52	7	41
Dutch	58	3	39

The attitudes of the parents towards both languages were rather similar. Slightly more than half of the parents found that Tarifit as well as Dutch were important, while a little less than half of them reported that neither Tarifit (41%) nor Dutch (39%) were important. The other few answers were neutral.

Language choice with family members and friends

Language choice was limited to three options, i.e. Tarifit only, both Tarifit and Dutch, and Dutch only. Table 4.7 presents the outcomes of reported language choice between parents, and between parents and grade 1 children. Table 4.8 exhibits results with respect to language choice between grade 1 children, siblings, and friends. Table 4.9 reports about language choice between parents and siblings of grade 1 children, siblings with each other, with other family members, and with friends.

Table 4.7: Reported (%) language choice of grade 1 children and their parents

Interlocutors	Tarifit	Tarifit + Dutch	Dutch
Mother with father	87	13	–
Father with mother	93	7	–
Child with mother before school age	87	10	3
Mother with child before school age	84	10	6
Child with father before school age	90	7	3
Father with child before school age	87	13	–
Child with mother after school age	26	48	26
Mother with child after school age	71	16	13
Child with father after school age	39	36	25
Father with child after school age	71	23	6

As to language choice between the parents, most of them spoke Tarifit with each other, few used both Tarifit and Dutch, and none of them reported to use Dutch only. The reported language of interaction between the child and the parents varies between the time before attending school and afterwards. Before the child went to school, the majority of the parents and their children spoke Tarifit with each other. Few cases were reported in which Dutch was used only or next to Tarifit. After starting school, most of the parents went on talking Tarifit with their children, i.e. few parents changed from Tarifit only to using both languages, or even Dutch only. For grade 1 children, the majority of them shifted to using both languages, and to a lesser extent to Dutch only. 26% of the children maintained the use of Tarifit with the mother, and 39% with the fathers.

Table 4.8: Reported (%) language choice of grade 1 children, their siblings and friends

Interlocutors	Tarifit	Tarifit + Dutch	Dutch
Child when playing alone	40	–	60
Child with younger siblings	50	39	11
Younger sibling with child	44	45	11
Child with elder siblings	10	25	65
Elder siblings with child	5	21	74
Child with friends of own group at home	7	37	56
Child with friends of own group outside	–	35	65

Table 4.8 starts out with the language the children of grade 1 used when playing alone. Almost two thirds of them used Dutch, while the rest used Tarifit. There was no reported choice for using both languages equally. Table 4.8 continues with language choice of the children with their siblings. There appears to be a difference between younger and older children, depending on whom the children were addressing. About half of the interactions between the children and their younger siblings took place in Tarifit, or in both languages. The use of Dutch only was limited to a few cases. Interactions between the children and older siblings were mostly in Dutch, followed by the ones using both languages. Interactions in Tarifit only were very seldom. The

difference in language choice patterns between younger and elder siblings lies probably in language proficiency in Dutch, i.e. younger siblings who had not been to school yet had limited proficiency in Dutch. Elder siblings seemed to be aware of this fact, and thus adjusted their language choice behaviour to the capacities of their younger siblings.

Finally, language choice between grade 1 children with their Tarifit speaking friends was in two thirds of the cases in favour of Dutch, followed by the ones opting for both languages. 1 child only happened to use Tarifit with his/her friends at home.

Table 4.9: Reported (%) language choice of grade 1 children's parents, siblings, and other family members

Interlocutors	Tarifit	Tarifit + Dutch	Dutch
Mother with younger children	89	6	5
Mother with elder children	70	30	–
Children with mother	42	42	16
Father with younger children	89	11	–
Father with elder children	65	20	15
Children with father	27	54	19
Children with each other	4	31	65
Children with family adults	24	32	44
Children with family children	–	–	100

Table 4.9 reports on language choice of the parents, the siblings of grade 1 children, and other family members, i.e. grandparents, uncles, aunts, or just friends of the family in the Netherlands. Besides, it reports on language choice of the children with children of the other family members just stated.

As to interactions between the parents and their children, most of them used Tarifit. More parents used Tarifit with younger children than with older ones. On the other hand, the interactions of the children with their parents were dominated by a mixture of both languages, specially with the father. Similarly, there were more children using Dutch only with the father than with the mother. The same holds true for interactions between the children and other adult family members.

Interactions among the children themselves were mostly conducted in Dutch, followed by one third of the children who opted for both Tarifit and Dutch. There was just 1 case where only Tarifit was used. In the case of language choice of the children with other children of family members, all of them were reported to have recourse to Dutch.

In conclusion, one may speak of 2 trends in the reported language choice patterns. The first trend is that most of the parents spoke Tarifit. Few of them had recourse to Dutch or a combination of both languages. The second trend is that grade 1 children used Tarifit mostly with their parents and their younger siblings, and Dutch widely with elder siblings, friends, and other children of family members. The use of Tarifit

is apparently related to the parents, while the use of Dutch is linked to other interlocutors than the parents.

4.1.2 Reference group in Morocco

The reference group in Morocco was selected in the central area of the Rif. Data collection took place during the summer period, with the help of one instructor. He was a school teacher in the area, and had taken part before in the data collection for the pilot study. Thus he was already acquainted with the tests. The instructor made use of his personal contacts, starting with neighbours, relatives, and other families in the area. The children were tested either at the home of the test instructor, or at the house of the children's home. All children were tested by this person.

Twenty children took part in this study, 7 boys and 13 girls. They were all born in the area, with the exception of 1 child who was born in Nador, the largest city in the eastern part of the Rif. The children were aged between 4-7; 3 children aged 4 years, 15 ones aged 5 years, one child aged 6 years, and another child aged 7 years. The age average of the group was 5 years. They had acquired Tarifit as their mother tongue, and did not speak any additional language. The fathers of most children did manual labour and had jobs as construction worker (5), painter (1), driver (1), trader (1), immigrant in Europe (5). 3 ones worked as teachers (2), and in administration (1).

4.2 Grade 8 children

4.2.1 Core group in the Netherlands

It was necessary to conduct an interview with grade 8 children in the Netherlands before deciding about their eligibility to take part in the study. The children were targeted in schools in Gouda and Utrecht. The interviews were conducted within 4 months. They were conducted orally and individually at the particular school(s) of the children. 58 children were interviewed. After screening the outcomes, 27 children were selected for the main study, i.e. 15 girls and 12 boys. They had a mean age of 12.5, varying between 11 and 14 years. One child was aged 11 years, 15 children were aged 12 years, 6 ones were aged 13 years, and 3 children 14 years. They were located at 7 primary schools, i.e. 8 children at 3 schools in Gouda, and 19 children at 4 schools in Utrecht. Table 4.10 gives an overview of the schools, cities, and number of informants taking part in this study.

Table 4.10: Number of selected grade 8 children per school

School	City	N children
1	Gouda	2
2	Gouda	1
3	Utrecht	5
4	Utrecht	7
5	Gouda	5
6	Utrecht	4
7	Utrecht	3
Total		27

A sample of 27 children was selected, 10 of them were born in Morocco, 15 in the Netherlands, and 2 ones did not indicate their place of birth. The children born in Morocco had been living in the Netherlands for periods varying between 5 and 14 years. 3 children were the eldest among their siblings, i.e. first-born in the family, 5 were the youngest, while the others ranked between the second and the ninth position.

Background of the family

The family background concerns the parents' migration history, educational level, diplomas, and work. All fathers were born in Morocco, and were aged between 38 and 65 years. They had been living in the Netherlands for periods varying between 13 and 30 years. They had low education if any, i.e. 11 fathers had never been at school neither in Morocco nor in the Netherlands, 10 ones had attended primary school in Morocco, 1 had followed primary school in both Morocco and the Netherlands, 1 father had been at secondary school in Morocco, and another one had been at secondary school in the Netherlands. 1 father only had received a secondary school diploma. There were no such data available from 3 children. Regarding employment, 11 fathers had no job, 3 were ineligible for medical reasons, 3 were retired, and 8 had a paid job, working in factories, cleaning service, restaurant, bakery, or as mechanic. 1 father had his own business.

Regarding the mothers, 1 of them was born in the Netherlands, while the others were born in Morocco. They were aged between 30-35 years, and had been in the Netherlands for periods varying between 5-30 years. The educational level of the mothers was lower than that of the fathers. 2 mothers only had attended primary school, and 1 secondary school, all of them in Morocco. None of them had received a diploma. 96% of them were housewives. Only 1 mother had a paid job.

Language profile

The language profile of grade 8 children in the Netherlands includes language proficiency, language preference, language dominance, and language attitudes as reported by the children themselves. Table 4.11 deals with language proficiency of the

children in Tarifit, and Table 4.12 with language proficiency of the parents in Dutch. Tables 4.13 presents the outcomes on language preference of both the children and their parents, Table 4.14 reports on language dominance, and Table 4.15 is concerned with language attitudes. The results on reported language choice within the family are given in Tables 4.16-4.18. There are data missing from two children, and thus the scores presented will be adding to 25 children, and not to the total of 27 children.

Table 4.11: Reported (%) oral proficiency of grade 8 children in Tarifit

Proficiency in Tarifit	No/little	Fair	(Very) good
Understanding	–	44	56
Speaking	–	48	52

Table 4.11 shows that about half of the children reported to be (very) good in understanding and speaking Tarifit, and the others said to be fair. None of them reported to have no or little oral proficiency at all. When language proficiency is related to country of birth, 5 out of 9 pupils born in Morocco reported to have a good receptive proficiency in Tarifit, and 4 fair. For productive proficiency, the situation was the other way around, i.e. 4 children reported to possess a good command of the language, and 5 ones fair. From the other 16 children born in the Netherlands, 7 of them qualified their proficiency in Tarifit as (very) good at both receptive and productive levels, and the others as fair.

Table 4.12: Reported (%) oral proficiency of the parents of grade 8 children in Dutch

Proficiency in Dutch	No/little	Fair	(Very) good
Mother	88	4	8
Father	52	28	20

When reporting about their parents' command of Dutch, 2 mothers were said to possess a (very) good command of the language, 1 mother as fair, and the large majority as little or no command at all. As to the fathers, around half of them were reported to have a low command of Dutch, while the other half were categorised either as fair or (very) good.

Table 4.13: Reported (%) language preference of grade 8 children and their parents

Language preference	Tarifit	Tarifit + Dutch	Dutch
Child	96	4	–
Mother	96	4	–
Father	92	8	–

Nearly all children as well as their parents were reported to have a preference for speaking Tarifit. Very few ones opted for both languages. None of them was reported to have a preference for Dutch, while 1 child, 1 mother and 2 fathers were in favour of speaking both languages. The choice of the parents in favour of Tarifit is easily to

explain; they were born and grown up in Morocco, and came to the Netherlands at an older age. In the case of the children, there must be other arguments for their preference for Tarifit than the one stated for their parents. One of the possible arguments could be the symbolic value the language represents for them.

Table 4.14: Reported (%) language dominance of grade 8 children and their parents

Language dominance	Tarifit	Tarifit + Dutch	Dutch
Child	75	25	–
Mother	100	–	–
Father	92	8	–

Concerning language dominance, 75% of the children reported to be dominant in Tarifit, and 25% to be balanced in both languages. All mothers were reported to be dominant in Tarifit. The fathers, with 2 exceptions, showed the same tendency as the mothers. The 2 exceptions are reported to be dominant in both Tarifit and Dutch. None of the children or their parents were reported to be dominant in Dutch, which is rather unexpected for the children.

Table 4.15: Reported (%) language attitudes of grade 8 children and their parents

Language attitudes	Important		Neutral		Unimportant	
	Tarifit	Dutch	Tarifit	Dutch	Tarifit	Dutch
Child	90	100	10	–	–	–
Parents	95	79	5	11	–	10

The attitudes of the children and their parents towards Tarifit and Dutch were overwhelmingly positive, balancing between 90% and 95% for Tarifit, and between 79% and 100% for Dutch. The other few respondents held neutral attitudes. Yet 2 parents thought that Dutch was not important. Tarifit was in counter part in no case indicated as unimportant. In general, while grade 8 children and their parents seemed to agree on the idea that Tarifit was important, they disagreed on their attitudes towards Dutch. All children hold positive attitudes, a number of parents did not share this view, either by indicating a neutral perception, or even by referring to Dutch as unimportant.

Language choice within the family

The description of language choice patterns within the family will be split to various interlocutors, i.e. between grade 8 children and their parents (Table 4.16), siblings and parents (Table 4.17), grade 8 children and their siblings (Table 4.18), and children and parents with other interlocutors (Table 8.19).

Table 4.16: Reported (%) language choice of grade 8 children and their parents

Interlocutors	Tarifit	Tarifit + Dutch	Dutch
Mother with father	100	–	–
Father with mother	100	–	–
Mother with child before school age	96	4	–
Child with mother before school age	92	4	4
Mother with child after school age	92	–	8
Child with mother after school age	84	8	8
Father with child before school age	84	8	8
Child with father before school age	88	4	8
Father with child after school age	75	17	8
Child with father after school age	75	12	13

The reported pattern of language choice of the parents in interaction with each other took place exclusively in Tarifit for all families without exception. In communication with their children, nearly all parents spoke Tarifit. Very few ones used Dutch or both languages. More parents happened to speak Dutch or both languages with their children after the latter had started attending school, compared to the period before attending school. As to the children themselves, 2 children used Dutch with their parents before attending school, and 8 ones afterwards.

Table 4.17: Reported (%) language choice of the parents and siblings of grade 8 children

Interlocutors	Tarifit	Tarifit + Dutch	Dutch
Mother with younger siblings not at school	90	–	10
Younger siblings not at school with mother	86	–	14
Mother with younger siblings at school	84	6	10
Younger siblings at school with mother	78	5	17
Mother with elder siblings	86	14	–
Elder siblings with mother	57	19	24
Father with younger siblings not at school	78	–	22
Younger siblings not at school with father	86	–	14
Father with younger siblings at school	78	6	16
Younger siblings at school with father	72	17	11
Father with elder siblings	95	–	5
Elder siblings with father	86	5	9

The reported interaction between parents and siblings took place mostly in Tarifit. Relatively more mothers were reported to use Tarifit with younger siblings than fathers. With elder siblings, the situation was the other way around, with more fathers using Tarifit than mothers. In response, more children spoke Tarifit with their fathers than with their mothers, i.e. 86% with the father as opposed to 57% with the mother. A number of children used either both languages or Dutch only with the mother. The language choices of the interlocutors were either on the side of Tarifit or on that of Dutch, and very few interlocutors said to make use of both languages.

Table 4.18: Reported (%) language choice of grade 8 children and their siblings

Interlocutors	Tarifit	Tarifit + Dutch	Dutch
Child when alone talking to him/herself	6	17	77
Child with younger siblings not at school	63	–	37
Younger siblings not at school with child	57	–	43
Child with younger siblings at school	5	–	95
Younger siblings at school with child	6	6	88
Child with elder siblings	9	14	77
Elder siblings with child	10	10	80

At the beginning, most of the children revealed to use Dutch when they were alone and said something. Very few ones used both languages, and one child only used Tarifit. The reported language choice of grade 8 children and their siblings with each other was totally different from the one of their parents. Most of the children and their siblings used Tarifit with their parents, whereas in interaction with each other they opted for Dutch. Exceptions to this were interactions between grade 8 children and their younger siblings not attending school, when Tarifit was mostly used. Yet, in interaction with younger siblings attending school and elder ones, Dutch was dominating.

Table 4.19: Reported (%) language choice of grade 8 children with other interlocutors

Interactions	Tarifit	Tarifit+Dutch	Dutch	Other
Mother with other family members	100	–	–	–
Father with other family members	96	–	–	4
Child with other family adults	90	5	5	–
Child with other family children	18	27	55	–
Child with best friend	21	16	63	–
Best friend with child	8	25	67	–

Table 4.19 gives an overview of reported patterns of language choice of the children's family with other members of close families, such as uncles, aunts, grandparents or others. The parents were said to communicate exclusively in Tarifit with other family members, with the exception of 1 father who was reported to speak Arabic. The children themselves spoke similarly Tarifit with adult family members, with 1 child using both Tarifit and Dutch, and another one Dutch only. In interaction with children of other families, more than half of the grade 8 children used Dutch, while 18% Tarifit, and 27% both languages. Communication with best friends was dominated by Dutch for most of the children. A number of them still opted for Tarifit or both languages.

To sum up the results of this section, there appears to be three patterns of language choice within the families. The first pattern is that of the parents with each other, taking place exclusively in Tarifit. The second one is that of the parents with the children, marked by a dominant use of Tarifit, mainly with the younger children. The

third pattern is that of siblings with each other, where more Tarifit is used with younger siblings and more Dutch with older ones.

4.2.2 Reference group in Morocco

The reference group in Morocco consisted of 2 subgroups. The first one took part in the 4 tasks of plural formation, case marking, gender-number distinction, and perfective formation. The word order task was not appropriately conducted and/or scored. As an alternative, there was recourse to the data of informants in the pilot study in Morocco, and to the data of 5 children from Al Hoceima. The latter group was tested in Morocco at the same time as the reference group from the central Rif area. As such, these 2 groups made up 12 informants in total, and will function as the reference group with respect to the word order task.

The first reference group is composed of 20 informants, i.e. 8 girls and 12 boys, with an average age of 12.5 years. The age range at the time of data collection varied between 11 and 15 years; 3 children were aged 11 years, 9 ones aged 12 years, 2 aged 13 years, 4 aged 14 years, and 1 child was aged 15 years. There was missing age information from 1 informant. All children were born in Dar Elkebdani or in its neighbourhood. They spoke Tarifit at home, and were dominant in this language. Their fathers performed manual labour as immigrant in Europe (5), construction worker (3), driver (1), trader (3), worker (2), waiter (1), or had no job (3). Two parents did administrative work.

The second reference group consists of 12 children, with an average age of almost 13 years. They were aged between 11-15 years. Two children were aged 11 years, 2 aged 12 years, 3 ones 13 years, and 2 children aged 15 years. Age information was missing from 3 children. 7 children were born in Dar El Kebdani, and 5 ones in El Hoceima. They were still living in their birth place at the time of data collection. Information about work of the fathers is available only for children from El Hoceima. Their work differed between civil servant, immigrant in Europe, mechanic, imam, or trader. For the ones of the other city of Dar El Kebdani, no data was collected at this respect.

No information deemed necessary about the language profile of the children from the reference group. They have grown up in an area, with Tarifit as their main language of socialisation.

CHAPTER 5

Plural formation

Plural formation morphology is a rather complex issue in Tarifit grammar. The various processes and strategies involved in this morphological domain make it a challenging task for investigation in language acquisition research. This chapter focusses on how children acquiring Tarifit deal with the rich and complex morphology of plural formation in this language. The first part (section 5.1) deals with the plural task for grade 1 children, by presenting a description of the task, the data analysis, and the conclusions reached. The second part (section 5.2) deals with the plural task for grade 8 children, and follows the same structure as the previous one.

5.1 Grade 1 children

5.1.1 Task description and data collection procedure

The plural task for grade 1 children comprises 5 types. This categorization is based on the suffix each type takes (Table 5.1). A distinction is made between regular forms on the one hand, including regular masculine and feminine suffix inflections, and irregular forms where plural forms are unpredictable on the other hand.

Table 5.1: Typology of the plural formation task for grade 1 children

Forms	Gender	Case	Suffixation
Regular	masculine	type 1	-en/-an
		type 2	-wen/-yen
Regular	feminine	type 3	-in
		type 4	-win/-tin
Irregular	masculine & feminine	type 5	–

The plural formation task for grade 1 children distinguishes first between regular and irregular forms. The former includes masculine and feminine nouns, which in turn are split into 2 types each, i.e. type 1 and 2 for masculine items, and type 3 and 4 for feminine ones. Differences between each type are based on the suffix they take. Besides, each type is divided into cases, based on the transformations they undergo at the prefix and/or infix level. The irregular form is made up of 1 type, including both masculine and feminine nouns. Each type is dealt with in Tables 5.2-5.6.

Table 5.2: Type 1 of masculine items for the plural formation task for grade 1 children

Case	Transformation		Items		Gloss
	Singular	Plural	Singular	Plural	
1	a-stem	i-stem-en	a-funas	i-funas-en	cow
			a-mezyan	i-mezyan-en	small
			a-zellif	i-zellif-en	head
			a-quḍaḍ	i-quḍaḍ-en	short
2	0-stem	i-stem-en	ḍar	i-ḍar-en	foot
3	0-st-u-m	i-st-a-m-en	fud	i-f-a-d-den	knee
4	a-stem	i-stem-an	a-lɣem	i-leɣm-an	camel
5	i-st-a-m	i-st-e-m-an	i-ɣzar	i-ɣezr-an	river
6	a-st-u-m	i-st-a-m	a-serd-u-n	i-serd-a-n	mule

Items of type 1 take either *-(e)n* or *-an* as a suffix. There are 9 items in this type, distributed over 6 cases. 7 of the items are nouns, and 2 items are adjectives with nominal forms, i.e. *amezyan* and *aquḍaḍ*, both belonging to case 1. Four of the items of case 1 undergo prefix alteration with suffixation of *-(e)n* as in *a-funas* (bull)/*i-funas-en*. The item of case 2 takes the prefix *-i*, and the suffix *-(e)n* as *ḍar* (foot)/*i-ḍar-en*. The item of case 3 undergoes four transformations, i.e. prefixation of *-i*, stem alteration by changing *-u-* into *-a-*, consonant gemination, and suffixation of *-en*, resulting in *fud* (knee)/*i-fad-d-en*. The item of case 4 undergoes prefix alteration and suffixation of *-n* as in *a-lɣem* (camel)/*i-leɣm-an*. The item of case 5 keeps the prefix unchanged, undergoes stem alteration, and adds the suffix *-n* as in *i-ɣzar* (river)/*i-ɣezra-n*. The last case in this type changes the prefix and the stem, but adds no suffix, resulting in *a-sard-u-n* (mule)/*i-sard-a-n*.

Table 5.3: Type 2 of masculine items for the plural formation task for grade 1 children

Case	Transformation		Items		Gloss
	Singular	Plural	Singular	Plural	
1	0-stem	i-stem-wen	mucc	i-mucc+wen	cat
2	a-stem	i-stem-wen	a-ɣenja	i-ɣenja-wen	ladle
	a-stem	i-stem-yen	a-ɣerda	i-ɣerda-yen	mouse

Nouns of type 2 take one of the suffixes *-wen* or *-yen*. This type comprises 2 cases and 3 items, i.e. 1 with prefixation and suffixation as *mucc* (cat)/*i-mucc-wen*, and 2 items with prefix change and suffixation as *a-ɣenja* (ladle)/*i-ɣenja-wen*, *aɣerda* (mouse)/*i-ɣerda-yen*. Case 1 and case 2 differ at the prefix level, i.e. while the first one takes the prefix *i-*, the second one submits to prefix transformation by changing *a-* into *i-*. The first 2 items differ from the third item at the level of the suffix, by taking *-wen* and *-yen* respectively.

Table 5.4: Type 3 of feminine items for the plural formation task for grade 1 children

Case	Transformation		Items		Gloss
	Singular	Plural	Singular	Plural	
1	t-a-stem-t	t-i-stem-in	t-a-meqran-t	t-i-meqran-in	big
			t-amedjar-t	t-imedjar-in	egg
			t-a-ɣenjay-t	t-i-ɣenjay-in	spoon
2	t-0-stem-t	t-i-stem-in	t-faw-t	t-i-faw-in	light/lamp
3	st-a-m	st-u-m-in	t-a-ddar-t	t-u-dr-in	house

Type 3 comprises 3 cases, including 5 items. Feminine nouns are marked for gender by the discontinuous morpheme *t-t* as *t-amɣar-t* (woman). In the plural, the first gender marker is kept, while the one in the suffix position disappears. The first item in Table 5.4 is an adjective with a nominal form. All items take the suffix *-in* in the plural. They differ at the prefix level, i.e. the 3 items of case 1 change the initial *a-* into *i-*, the item *tfawt* (light) of case 2 takes the prefix *i-*, while the last item (case 3) undergoes many processes, by transforming of the prefix *a-* into *u-*, laxing of the consonant *d*, and deletion of the vowel *-a-*.

Table 5.5: Type 4 of feminine items for the plural formation task for grade 1 children

Case	Transformation		Items		Gloss
	Singular	Plural	Singular	Plural	
1	stem	stem-awin	tiṭ	tiṭ-a-win	eye
2	a-stem	i-stem-iwin	t-a-lefsa	t-i-lefs-i-win	she-serpant
	a-stem	i-stem-tin	t-a-ziyya-t	t-i-ziyya-tin	bottle

Type 4 has 2 cases, including 3 items. The first item does not submit to any change at the prefix level, and takes the suffix *-awin,* as *tiṭṭ-a-win* (eye), while the second and third items change the prefix *a-* into *i-*, and take the suffix *-win* for *t-a-lefsa/t-i-lefs-iwin*, and the suffix *-tin* for *t-a-ziyyat/t-i-ziyyat-in* (bottle).

Table 5.6: Type 5 of irregular forms for the plural formation task for grade 1 children

Case	Transformation		Items		Gloss
	Singular	Plural	Singular	Plural	
1	st-u-0-m	st-0-a-m-a	lk-u-r-si	lekrasa	chair
	a-st-0-m	i-st-u-m	ad-r-ar	i-d-u-rar	mountain
	i-st-e-m	i-st-a-m-(en)	tiɣmest	tiɣm-a-s/a-ɣmas-en	tooth
	stem	other-stem	bnadem	iwdan	person
	st-a-m	st-wa-m-a	lkazi	lekwaza	window

Items of type 5 are included under one case, with 5 items. 2 items make the plural by means of stem modification and suffixation as *lk-u-r-si/lekr-a-s-a,* and *lk-a-zi/lekw-a-za,* one noun by means of prefix transformation and infixation as *a-d-rar/i-d-u-rar.* The feminine noun *tiɣmest* gets the plural by means of infixation as *tiɣm-a-s*, or pre-

suffixation as *a-ɣmas-en*. The item *bnadem* changes completely in the plural form into *iwdan*.

The task was conducted productively with the use of a picture book. The child was shown a picture of one object drawn on the top half of a page. The same object was drawn twice on the bottom half of the same page. The test instructor pointed first to the single object and named it in the singular form, by saying *ta d* (this is ...). Afterwards he pointed to the picture on the bottom half saying *yina d tnayen n* ... (and these are two ...), inviting the child to finish the sentence by supplying the plural form.

5.1.2 Data analysis

The scores were categorized into correct and false answers. An answer was considered correct when it matched the expected form. Other answers were accepted as correct, such as when the plural inflections were correctly applied, but the stem unnecessarily modified, as in *i-mic-wen* instead of *i-mucc-wen*, or when a child was given an item like *aḥenjir* (boy), and s/he answered with another one as *iryazen* (men) rather than the given one *iḥenjiren*. The answer given is the plural of another singular noun such as *aryaz*. In this case, both the expected plural *i-ḥenjir-en* and the given item *i-ryaz-en* follow the same pre-suffixation rule, namely *i-en*. Finally, when more than one answer was provided, the correct one was counted.

Under false answers, 3 types were distinguished, i.e. false plurals by modifying the stem, but inappropriately; singular answers due to the repetition of the singular stimulus; and other answers. The latter include zero responses, plurals given in another language (Dutch/Arabic), other plurals with other rule applications, and unintelligible answers.

The results of grade 1 children are presented per type. First, the scores are presented in terms of correct and false answers. False answers are coded into false plurals, singulars, and other false answers. Data analysis deals first with the correct scores on the whole task and on each plural type, followed by an analysis of the type of errors, i.e. the source of mistakes in terms of affixation and/or inflection. When the plural is not correct because of errors at both the prefix and suffix level, the term pre-suffixation is used. In the same way, terms like in-suffixation, pre-infixation, or pre-in-suffixation are applied, referring to errors at various levels. Because irregular plurals do not follow specific rules, it is not possible to determine their source of errors. As such, no results will be presented at this respect. Rather, there will be a presentation of the nature of strategies the children used.

Table 5.7: Scores on the plural task formation for grade 1 children

Grade 1 children	N items	Mini	Maxi	Mean	%	S.D.
Core group	25	–	13	3	12	3.12
Reference group	25	13	23	21	84	1.84

The scores show a strong discrepancy between the performances of the two groups. All grade 1 children in Morocco scored at least 13 items correct, while the maximum score for children in the Netherlands was 13 items correct. The groups' mean shows that the task in its totality was easy for the group in Morocco and difficult for the group in the Netherlands (skewness). 84% of the items were scored as correct by children in Morocco, against 12% only for the children in the Netherlands. More than 50% of the children in Morocco have a score of 20 items correct at least. The scores of the children in Morocco are a strong indication that the task is within their capacities, and that the children in the Netherlands are far behind their peers in Morocco.

Table 5.8: Scores (%) on type 1 of the plural formation task for grade 1 children in the Netherlands

Case	Singular	Plural	Correct	False Plural	Singular	Other
1	a-stem	i-stem+en				
	1 a-funas *(bull)*	i-funas-en	13	26	45	16
	2 a-mezzyan *(little one)*	i-mezzyan-en	20	10	60	10
	3 a-zellif *(head)*	i-zellif-en	27	23	50	–
	4 a-quḍaḍ *(short)*	i-quḍaḍ-en	15	18	63	4
2	0-stem	i-stem+en				
	5 ḍar *(foot)*	i-ḍar-en	67	15	18	–
3	0-stem	i-stem (mod)+en				
	6 fud *(knee)*	i-fad-d-en	–	38	58	4
4	a-stem	i-stem +an				
	7 a-lɣem *(camel)*	i-leɣm-an	4	14	82	–
5	i-stem	i-stem+an				
	8 i-ɣzar *(river)*	i-ɣezr-an	9	26	61	4
6	a-stem	i-stem+ (mod)-n				
	9 a-serdun *(mule)*	i-serd-a-n	4	24	69	3

Table 5.8 shows that the best performance of the core group in the Netherlands is realised with respect to the word *ḍar/i-ḍar-en* (foot). The first 4 words, subject to the most common rule of plural formation, did not obtain high scores as was expected. Yet, they scored the highest among the other cases of type 1.

The reference group in Morocco obtained much higher scores for this type, with the exception of the item *fud* (knee). The difficulty appears to be at the level of stem alteration, by missing the change inside the stem. Most children gave correct answers on the items of type 1, irrespective of the transformations involved.

Table 5.9: Errors on type 1 of the plural formation task for grade 1 children in the Netherlands

Affixation	Case	Items	Prefix	Infix	Suffix	Pre-in	Pre-suf	Pre-in-suf	Total
Pre-suffix	1	1 afunas	3		1		3		7
		2 amezzyan	1		1				2
		3 azedjif	4		1				5
		4 aquḍaḍ	4		1				5
	2	5 ḍar	2		1				3
	3	6 alɣem			1			3	4
Pre-infix	4	7 aserdun			1	4			5
Pre-in-suf	5	8 fud		1		3			4
Suffix	6	9 iɣzar			5				5
Total			14	1	12	7	3	3	40
%			35	3	30	18	7	7	100

Table 5.9 indicates that out of a total of 40 false plurals, 14 (35%) were at the level of prefixation. The children kept the prefix unchanged, while they did add the correct suffix to the stem. This means that the children had not mastered the prefixation mechanism yet.

The second type of errors concerns suffixation with 12 errors. The children dealt correctly with the prefix, but they added the wrong suffix. 5 of the errors in this type are related to the word *iɣzar* (river), which was incorrectly suffixed with *-ten*, *-nen*, and *-yen*, resulting in *iɣzar-ten*, *iɣzar-nen*, *iɣzar-yen*. The children were aware of the suffixation process, but used the wrong inflection.

On the whole, most of the core group children in the Netherlands seem to focus on the suffixation process in plural formation. Few children opted for the opposite, by modifying the stem and providing the right prefix, while giving the wrong suffix. Very few children erroneously applied the double plural marker of prefixation and suffixation.

For the reference group in Morocco, the item *fud* (knee) resulted in a high rate of false plurals. 79% of the false plurals given were as *i-fud-an*, due to the absence of stem modification and false suffixation with *-an* instead of *-(e)n*. The children did select the right prefix *-i*. This indicates that they were aware of the dual process of affixation in the plural and the correct prefix inflection *-i*, even if the noun does not begin with *-a*. The fact of suffixing with *-an* instead of *-en* needs a question mark. The children also seemed not to realize that *fud* undergoes stem modification, besides prefixation and suffixation. Only one child provided the right answer in this case. The plural form *i-fud-an* could be a typical child form, used at a certain age.

Table 5.10: Scores (%) on type 2 of the plural formation task for grade 1 children in the Netherlands

Case	Singular	Plural	Correct	False Plural	Singular	Other
1	0-stem 10 mucc *(cat)*	i-stem-wen i-muc-wen	10	23	63	4
2	a-stem 11 a-ɣenja *(ladle)*	i-stem-wen i-ɣenja-wen/yen	–	40	46	14
	a-stem 12 a-ɣerda *(mouse)*	i-stem-yen i-ɣerda-yen	11	18	61	10

In type 2 of masculine plurals, only few children scored correct on the first and the third item, and none of them scored correct on the second item, as can be seen in Table 5.10. The false answers given were primarily singulars by repetition of the stimulus form, followed by false plurals due to incorrect stem modification. Few answers had other forms of errors, such as non-response.

The reference group in Morocco scored very high on the 3 items given. The first item seemed to be an easy one for all children. A couple of children failed on the second and third items. All false answers given were in the form of false plurals due to stem modification. No false answers were given in terms of singulars or other forms.

These outcomes show again the discrepancy between the 2 groups at the level of plural formation in Tarifit. Besides, the groups differ also in the nature of false answers given. Most of the children in the Netherlands, failing to detect the right plural form, had recourse to repeating the singular form. The errors of the children in Morocco on the other hand were always in the form of wrong plurals, with one exception.

Table 5.11: Errors on type 2 of the plural formation task for grade 1 children in the Netherlands

Affixation	Case	Items	Prefix	Infix	Suffix	Pre-in	Pre-suf	Pre-in-suf	Feminine	Total
Pre-suf	1	10 mucc	2		1		4			7
	2	11 aɣenja	1		1		5		3	10
	3	12 aɣerda	–	–	3		2			5
Total			3	–	5	–	11	–	3	22
%			14	–	22	–	50	–	14	100

50% of the errors were at the level of pre-suffixation. In 9 out of 11 false answers, changes were realized only at the suffix level, ignoring the prefix level totally. The suffixes used were mostly in the form of *-en* only (3 times) or with other combinations such as *-jen* or *-ten* (3 times).

Errors at the suffix level only accounted for 23% of the errors, i.e. children put the right prefix but the wrong suffix inflection. In 3 other cases (14%), the children did put the right suffix but the wrong prefix. This shows the same dominating trend as in the first type, i.e. by leaving the prefix unchanged, while opting for a suffixation strategy only. At this respect, the suffix *-en* turned out to be the most favourite. Besides,

3 answers obtained the plural inflection of feminine forms as *t-i-ɣenjay-in*, the plural of *aɣenja* (ladle).

As to the reference group in Morocco, sources of false answers (4) were due to mis-suffixation, by using *-n* 3 times, or by zero suffixation once. The prefix *i-* was always correctly attached to the stem.

A comparison between the 2 groups shows that the children in Morocco were aware of the 2 processes of prefixation and suffixation on the one hand, and used the correct inflections at both levels on the other hand. The children in the Netherlands were not yet aware of the double affixation process of pre-suffixation in Tarifit, and had thus recourse to the suffixation strategy only.

Table 5.12: Scores (%) on type 3 of the plural formation task for grade 1 children in the Netherlands

Case	Singular	Plural	Correct	False Plural	Singular	Other
1	t-a-stem-t	t-i-stem-in				
	13 t-a-meqran-t *(big one)*	t-imeqran-in	10	28	39	23
	14 t-a-mellal-t *(egg)*	t-i-medjar-in	26	22	45	7
	15 t-aɣenjac-t *(spoon)*	t-i-ɣenjay-in	10	26	58	6
2	t-0-stem-t	t-i-stem-in	–	26	48	26
	16 tfawet *(light)*	tifaw-in				
3	t-a-stem-t	t-u-stem -in	–	26	58	16
	17 t-a-dd-a-rt *(house)*	t-u-dr-in				

The items of type 3 led to very low correct scores, balancing between 26% correct as the highest for item 14, and 0% as the lowest for items 16 and 17. Items of case 1, submitting to regular feminine rules, scored, however, not as high as expected. The stem of the 1 item of case 2 begins with a consonant, and takes *i-* as prefix and the suffix *-in*. The last case includes the exceptional item *t-a-d-da-r-t*, getting the plural by the 3 processes of pre-in-suffixation, by changing the prefix *a-* into *u-*, omitting the vowel *-a-*, laxing the consonant before */d/*, and taking the suffix *-in*, which explains the difficulty the children of the core group met. The group in Morocco performed very high on all items. One remark concerns the last item, which obtained 55% of the correct answers in the form *t-i-dd-u-r-a* (houses), different from the expected *t-u-d-r-in*. No answer in this form was witnessed among the core group in the Netherlands.

Table 5.13: Errors on type 3 of the plural formation task for grade 1 children in the Netherlands

Affixation	Case	Items	Prefix	Infix	Suffix	Pre-suf	In-suf	Pre-in-suf	Total
Pre-suf	1	13 t-a-meqran-t			1	7			8
		14 t-a-mellal-t	1		1	5			7
		15 t-a-ɣenjac-t			4	4			8
	2	16 t-faw-t				8			8
Pre-in-suf	3	17 t-a-dd-a-rt					2	6	8
Total			1	–	6	24	2	6	39
%			3	–	16	61	4	16	100

Most of the errors within this type were at the level of pre-suffixation, similar to the types before. Half of the errors at the prefix level were due to the omission of the feminine prefix *t-*, while keeping the vowel *-a-* unchanged. At the suffix level, errors varied between no suffixation at all, and omitting the feminine inflection *-t* at the end of the item. With respect to the word *tfawt*, in 7 out of 8 false responses, the plural was marked by omitting the feminine prefix *t-*, and suffixing *-a*, *-en*, or no suffix. In 16 out of 24 pre-suffix errors, the children resorted to the omission of the feminine prefix *t-*. The second type of errors concerned the suffix level; while the prefix was used correctly, the suffix was not. 4 out of 6 of such errors applied to the noun *taɣenjact* (spoon). There were also errors at the 3 levels of pre-in-suffixation together, all of them with respect to the item *taddart* (house). 4 out of 6 errors were marked by keeping the item unchanged at the prefix and infix levels, while putting the suffix *-en*, twice as *taddar-t-en*, and twice as *taddar-en*.

The masculine suffix *-en* was used with feminine nouns of this type in 10 occurrences. This implies that there was still confusion among some children in the Netherlands between the suffixes specific to masculine nouns, and the ones specific to feminine nouns.

For the reference group in Morocco, there were 2 errors in this type, i.e. once as a non-response, and once as a false plural in the form of *taddar-in* instead of *t-u-dr-in*, caused by keeping the initial of the stem unchanged.

Table 5.14: Scores (%) on type 4 of the plural formation task for grade 1 children in the Netherlands

Case	Singular	Plural	Correct	False Plural	Singular	Other
1	t-stem 18 tiṭ *(eye)*	t-stem-a-win tiṭ-awin	50	17	20	13
2	t-a-stem 19 t-a-lefs-a *(viper)*	t-i-stem-iwin t-i-lefs-iwin	4	–	46	50
	t-a-stem 20 t-a-ziyya-t *(bottle)*	t-i-stem-in t-i-ziyya-tin	10	21	61	8

The first item *tiṭ* (eye) in this type had the highest correct score up to now among the group in the Netherlands with 50%, while the group in Morocco achieved nearly a 100% correct score. The first item is frequently used in the plural form, which explains the difference in the scores between this first item and the other two ones. The scores on the second item of case 2 were very low for the core group, with 1 correct answer. Most of the answers given were as *fiɣar* (snake), half of them in the singular form and the other half in the plural form. 46% of the answers were in the singular form as *talefsa*. Surprisingly, no false plural answer was built from the given stem *talefsa*. Item 3 obtained most answers in the singular form.

The children in Morocco scored low as well on the item *talefsa* in comparison with their overall performance. Only half of the children gave the correct answer, 5% gave the correct plural of the opposite gender *i-fiɣar-an*, and 30% gave false plurals.

Table 5.15: Errors on type 4 of the plural formation task for grade 1 children in the Netherlands

Affixation	Case	Items	Prefix	Infix	Suffix	Pre-suf	In-suf	Pre-in-suf	Total
Suf	1	18 tiṭ	2		2	1			5
Pre-suf	2	19 talefsa							–
		20 taziyyat			1	4			5
Total			2	–	3	5	–	–	10
%			20	–	30	50	–	–	100

There were few errors at the level of inflections, because most of the errors were in the singular forms. The first item resulted in five errors, two at the level of the prefix. One child changed *i-* into *a-* and omitted the feminine prefix *t-* (*aṭṭawin*). Another child prefixed another *i-* to the word, resulting in *i-tiṭṭawin*. 2 children used the wrong suffix *-en* (*tiṭṭen*). The last child changed both the suffix and the prefix, resulting in *tawiten*. The last item resulted in five mistaken plurals. In 4 cases, the children did not transform the prefix *a-* correctly and put the suffix *-en*. 1 child put the right prefix, but the wrong suffix *-en*.

There were in total 10 errors due to plural mis-inflection. Half of them were at the level of pre-suffixation, by keeping the prefix *a-* unchanged and putting the wrong suffix *-en* instead of *-win* or *-tin*. When considering the error types at the level of prefix and suffix separately, there were more errors at the level of the latter. This is partly due to the fact that the first noun *tiṭ* does not submit to any changes at the prefix level. The children in Morocco had more difficulties with the second item. 5 out of 6 errors were due to suffixation by means of *-ran*, *-wen* (twice), *-an*, and zero suffix.

Table 5.16: Scores (%) on type 5 of the plural formation task for grade 1 children in the Netherlands

Case	Singular	Plural	Correct	False Plural	Singular	Other
1	st-u-0-m	st-0-a-m-a				
	21 lkursi *(chair)*	lekrasa	3	20	70	7
2	a-st-0-m	i-st-u-m				
	22 adrar *(mountain)*	i-d-u-rar	–	23	48	29
3	i-st-e-m	i-st-a-m-(en)				
	23 tiɣmest *(tooth)*	tiɣm-a-s/a-ɣmas-en	39	32	13	16
4	stem	other-stem				
	24 bnadem *(person)*	iwdan	3	17	58	22
5	st-a-m	st-wa-m-a				
	25 lkazi *(window)*	rekwazi	–	16	61	23

The irregular nouns were expected to be difficult for the children of the core group. Item 23 *tiɣmest* (tooth) scored the highest. It is commonly used in the plural form in

daily life. Only 2 children scored correctly on the first noun *lkursi* and the fourth noun *bnadem*. Errors on this type were due first to giving the singular form, followed by affording false plurals, and non-response. The latter was higher with respect to irregular forms, compared to the previous types. The group in Morocco scored much better than the group in the Netherlands. Most of the children scored correct on items 21, 23 and 25, but failed on items 26 and 24.

Because the irregular forms are not constrained by specific rules, it is not easy to detect the types of errors committed. Still, the children tried to apply affixation strategies. Tables 5.17 and 5.18 give a quantitative analysis of the strategies used by children in the Netherlands and Morocco, respectively.

Table 5.17: Strategies applied with irregular forms of the plural formation task for grade 1 children in Netherlands (a- > i-: transformation of a into i; t+: addition of t)

N	Inflection strategy		Transformation level			Total
	Prefixation	Suffixation	Prefix	Suffix	Pre-suf	
1	a- > i-		1			1
2	t+a- > -i		1			1
3		-titen		1		1
4		-ten		1		1
5		-t		4		4
6		-ten		4		4
7		-nen		1		1
8		-yen		1		1
9		-en		6		6
10		-tan		1		1
11		-in		2		2
12	a- > i-	-ten			1	1
13	a- > i-	-en			2	2
Total			2	21	3	26
%			8	80	12	100

The most common affixation process applied by the children in the Netherlands was the one of suffixation with 80%. The suffix *-en* was commonly used. Out of a total of 21 mistaken answers, 14 had the suffix *-en*. In half of the contexts, the suffix *-en* was used as such with no combinations, whereas in the rest of the cases, it appeared in combination with *-t* in the form of *stem-t-en*. The process of pre-suffixation and prefixation were seldom applied (twice each), while an infixation strategy was never used.

Table 5.18: Strategies applied with irregular forms of the plural formation task for grade 1 children in Morocco (a- > i-: transformation of a into i)

N	Inflection strategy		Transformation level			Total
	Prefixation	Suffixation	Prefix	Suffix	Pre-suf	
1		-n		2		2
2		-in		1		1
3		-en		2		2
4		-at		3		3
5		-yan		1		1
6		-an			1	1
7	a- > i-	-an			9	9
8	a- > i-	-en			9	9
9	0- > i-	-ten			1	1
10	0- > i-	-yan			1	1
Total			–	9	21	30
%			–	30	70	100

In most cases, children in Morocco tried the double strategy of pre-suffixation, which is in fact the most common process of pluralization in Tarifit. 11 cases out of 21 were in the form of *i-an,* 9 times with the noun *adrar* (mountain). The next most widely used combination was *i-en,* used 9 times, of which 8 times with the word *bnadem* (person). To a lesser extent, suffixation only was applied, either by means of *-n* alone, or as *-in.* Prefixation or infixation strategies were in no case applied.

The difference between the children in the Netherlands and the ones in Morocco is a function of the strategies each group applied for the regular forms. The children in the Netherlands were much more concerned with suffixation, keeping the initial of the stem unchanged. Their peers in Morocco applied the double strategy of pre-suffixation, and happened to miss the right inflection.

5.1.3 Conclusions and discussion

Table 5.19 lists all items of the complete plural formation task in descending order, based on the correct scores of grade 1 children in the Netherlands, and given in percentages. The table gives an overview of the scores, in the light of many factors that could have influenced the achievements of the children. These factors include gender, type of items, affixation process, and morphological change taking place.

Table 5.19: Correct scores (%) on items of the plural formation task for grade 1 children in the Netherlands

N	Ranked items	%	Gender	Type	Affixation	Change
1	iḍaren (iḍarn)	58	masculine	1	pre-suffix	i-en
2	tiṭṭawin	48	feminine	3	suffix	-in
3	tiɣmas	35	feminine	5	irregular	–
4	timellalin	26	feminine	3	pre-suffix	i-in
5	izellifen	26	masculine	1	pre-suffix	i-en
6	iquḍaḍen	13	masculine	1	pre-suffix	i-en
7	ibezzuḥen	13	masculine	1	pre-suffix	i-en
8	iyenduzen ifunasen	13	masculine	1	pre-suffix	i-en
9	timeqranin	10	feminine	3	pre-suffix	i-in
10	iɣerdayen	10	masculine	2	pre-suffix	i-yen
11	iɣezran	10	masculine	4	suffix	i-an
12	tiɣenjayin	10	feminine	4	pre-suffix	i-yin
13	tiziyyatin	10	feminine	4	pre-suffix	i-tin
14	imuccwen	10	masculine	2	pre-suffix	i-wen
15	iwdan	3	masculine	5	irregular	–
16	lekrasa	3	masculine	5	irregular	–
17	tilefsiwin	3	feminine	4	pre-suffix	i-win
18	iserdan	3	feminine	2	pre-suffix	i-an
19	ileɣman	3	masculine	2	pre-suffix	i-an
20	lekwaza	–	masculine	5	irregular	–
21	ifadden	–	masculine	1	pre-in-suffix	i-a-den
22	tudrin/tiddura	–	feminine	5	irregular	–
23	idurar	–	masculine	5	irregular	–
24	tifawin	–	feminine	3	pre-suffix	i-in
25	iɣenja-yen/-wen	–	masculine	4	pre-suffix	i-yen

To start with the effect of gender, it does not appear that items belonging to 1 gender form obtained higher scores than the ones of the other gender form. Moving to the next column, 5 of the 6 items of type 1 are ranked among the top 8. The other item of type 1 *fud* (knee) did not have a high score, because of its complexity compared to the other forms of the same type. Items of type 1 take the prefix *i-* and the suffix *-en*. Further, items submitting to three affixation processes (pre-in-suf) were more difficult than the ones submitting to the 2 processes of pre-suffixation only.

Data analysis so far focussed on the categorization of the types of answers given in terms of correct versus incorrect answers, and the position of the errors. From this analysis, it becomes clear that the performance of the 2 groups differs both quantitatively and qualitatively. Table 5.20 gives an overview of the quantitative differences between the core group and the reference group in terms of error types.

Table 5.20: Types of errors (%) on the plural formation task for grade 1 children

Grade 1 children	False plurals	Singulars	Other
Core group	28	58	14
Reference group	90	4	6

The answers of the core group in the Netherlands were categorised into minimally 4 types, i.e. correct answers, false plurals, singulars, and other answers. The answers of the reference group in Morocco fell solely under 2 types, i.e. correct answers and false plurals. This reveals dispersion within the answers of the core group. Besides, the recourse to singular by most of the core group children evokes many speculations. Two hypotheses are advanced at this respect.

The first hypothesis is that the children gave the singular thinking it was a plural, just because the items look like plurals, either in Tarifit or even in Dutch. 4 words could be suspected in some way of having the morphological schemata of a plural. The word *afuna-s* (cow) ends in *s*, which is a salient plural marker in Dutch. Whether or not the children confused the use of *s*, as a Dutch plural marker, in a Tarifit word is unclear. The items *amezyan* and *aserdun* end in *-n*, a salient marker of plural suffix in Tarifit, and the word *i-ɣzar* begins with the prefix *i-*, the prefix marker of plural par excellence in Tarifit. All other items in the singular form do not have phonemic features of a plural schema, neither in Tarifit nor in Dutch. This is why this first hypothesis is not favoured. In another study, Köpcke (1998) found that singular monosyllabic stimuli received the lowest number of non-responses, while polysyllabic stimuli received a slightly higher number of non-responses, though these items are not plurals in the real lexicon. This led her to conclude that children tend to interpret longer forms as plurals. This was earlier confirmed by Anisfeld and Tucker (1967). The plural task in the present study includes 4 monosyllabic items, i.e. *ḍar* (foot), *fud* (knee), *tiṭ* (eye), and *mucc* (cat). All other items are polysyllabic. Yet, both types were subject to answers in singular. As such, it is not assumed that the children in the Netherlands have interpreted polysyllabic items as plurals.

The second hypothesis is that the children, in their recourse to singular forms, were aware of the fact that they gave a singular form instead of a plural one, but had no better alternative. They were neither capable of retrieving the correct plural, nor retrieve any plural rule and apply it. Otherwise said, children's recourse to the singular strategy is due to their inability to produce any plural form. Children using the singular strategy might be at the initial stage of language acquisition.

Qualitatively, the 2 groups differ also with respect to the type of errors within the type of false plurals given, i.e. when modifying the stem. For the core group in the Netherlands, 66% (33 out of 50) of the errors were at the prefix level, i.e. by keeping the initial of the stem unchanged, instead of changing *a-* into *i-*, or just by adjusting the prefix *i-* to the stem. This implies that these children did not realise that prefixation is one of the processes involved in pluralization in Tarifit. There are two ways to explain this behaviour. First, there may be influence of the Dutch plural system, based exclusively on suffixation. Second, order of language acquisition between prefixation and suffixation may play a role, i.e. the suffixation process is acquired first and prefixation later on. As such, these children are said not to have reached the prefixation stage yet. The other children (13 ones) who acted on prefixation, just

omitted the feminine prefix of feminine nouns (10 times), or they added the feminine prefix to the stem (3 times). These children seemed to know that the plural is morphologically different from the singular. The one morphological solution afforded to them appeared to be either the omission or the addition of the feminine prefix.

With respect to suffixation, the core group in the Netherlands had problems with all types of suffixes. The suffix *-en* was the most used one with 41% (25 times out of 61). It was used 21 times instead of one of the feminine suffixes. The same suffix was used in combinations like *-ten* (6 times), *-jen* (twice), *-in*, *-yen*, *-nen*, and *-uten* (once each). As such, the suffix *-en* seemed to be the default rule, generalised over all other words. The children produced in total 17 types of mistaken suffixes, and 5 of them were used at least 3 times.

The false plural errors of the reference group were due to modifying the singular stem. The strategies applied follow a logical reasoning. First, the children used the dual pluralization process of pre-suffixation. Second, affixations belonging to masculine nouns were used with masculine *i-en/an*, and the ones belonging to feminine as *i-in* were used with feminine. Errors at the prefixation level were nearly absent. The group showed to be aware of the prefixation process, and the changes attributed to it. As for the suffix inflections, the most overgeneralised one was the suffix *-an* instead of *-en*, used 16 out of 29 times. However, all 16 errors were related to the word *fud*, leading to answers like *i-fud-an*, instead of *i-fad-d-en*. The question remains why the children used the suffix *-an* instead of *-en*, given the fact that the frequency of the suffix *-en* is higher than that of *-an*, and as such, the suffix *-en* had a better chance to be overgeneralised. There are 2 hypotheses to think about. First, there might be phonological/morphological constraints inherent in the language, leading to the use of the suffix *-an* with the word *fud*. Second, there are other words in Tarifit, constructing the correct plural form in the same way as the given mistaken *i-fud-an*, like *ḍaḍ/i-ḍuḍ-an* (finger). The production of the plural *ifudan* would then be due to its mapping with other items like the given example.

On the basis of the error patterns of the children in the Netherlands, the core group was categorized into two subgroups. The first one was characterised by keeping the prefix unchanged and adjusting a suffix to the stem. These children seemed not to be yet aware of the prefixation process involved in pluralization. The second subgroup put the right prefix but the wrong suffix. These children were advanced in their acquisition level of the plural. They were aware of the dual affixation process involved. They put the right prefix, but not the right suffix.

There are two assumptions to deduce from these results at the theoretical level. The first assumption concerns the order of acquisition of double affixation between prefixation and suffixation. The data reveal that children acquire first the suffix, and later on the prefix. Second, once the children realise the prefix process, they begin to make less mistakes at the prefix level than at the suffix level. It is assumed that children acquire earlier the capacity to put the right prefix than the correct suffixes, because the

prefixation process is simple and involves only one change, i.e. the prefixation of *i-*, while the suffixes are many, and thus it takes more time to acquire all of them.

5.2 Grade 8 children

5.2.1 Task description and data collection procedure

The plural formation task for grade 8 children contains 5 types. As with the task for grade 1 children, types are distinguished on the basis of the suffixation process. Items of types 1 and 2 are masculine nouns, and take *-en* and *-an* respectively. Items of types 3 and 4 are feminine nouns and take the suffixes *-in*, *-win*, and *-tin*. Type 5 contains irregular forms. Table 5.21 gives an overview of types of the task.

Table 5.21: Typology of the plural formation task for grade 8 children

Forms	Gender	Types	Suffixation
Regular	masculine	type 1	-en
		type 2	-an
Regular	feminine	type 3	-in
		type 4	-i-win/-tin
Irregular	masculine & feminine	type 5	–

Each type is divided into cases, based on the morphological structure of the initial of the stem, and the inflectional changes the stem undergoes at the level of prefix and/or suffix. Each type will be elaborated on in the following Tables 5.22-5.26.

Table 5.22: Type 1 of the plural formation task for grade 8 children

Case	Transformation		Items		Gloss
	Singular	Plural	Singular	Plural	
1	a-stem	i-stem-en	akniw	i-kniw-en/i-cniw-en a-cniw-en	twin
			aɣembub	i-ɣembub-en i-ɣembab	face
			abliw	i-bliw-en	eyelash
			aryaz	i-ryaz-en	man
2	0-stem	i-stem-en	ḍar	i-ḍar-en	foot
3	i-stem	a-stem-en	i-ccar	a-ccar-en	nail
4	a-stem	a-stem-en	a-ncuc/ayencic	ancuc-en/i-yencic-en	lip
			anzar	anzar-en	nose
5	0-stem	0-stem-awen	ul	ul-awen	hart
6	0-stem	i-stem (mod)-en	fus	i-f-a-s-sen	hand
			fud	i-f-a-d-d-en	knee

Table 5.22 contains the items of type 1. There are 6 cases, distributed over 11 items. Case 1 contains items beginning with the vowel *a-* in the singular, which changes into *i-* in the plural. There are 4 items corresponding to this case. Case 2 includes the item

ḍar (foot), with a consonant in the initial position, and which takes the prefix *i-* in the plural (*i-ḍar-en*/foot). To case 3 belongs the item *i-ccar* (nail), with *i-* in the initial position in the singular form, and which changes into *a-* in the plural (*a-ccar-en*). Case 4 has two items; both of them have *a-* in the initial position of the stem, just like the items of case 1, but do not change this vowel in the plural, yielding the pairs *a-ncuc/a-ncuc-en* (lip/lips) and *a-nzer/a-nzar-en* (nose/noses). The 1 item of case 5 has *u-* as initial segment of the stem, and keeps it in the plural as *u-l/u-l-awen* (heart). The last case contains the 2 items *fus* (hand) and *fud* (knee). Unlike the nouns of the previous cases, these items involve three morphological processes, i.e. prefixation of *a-*, stem modification of *-u-* into *-a-*, gemination of the consonant, and suffixation of *-en*, resulting in *i-f-ad-d-en/i-f-as-s-en.*

Table 5.23: Type 2 of the plural formation task for grade 8 children

Case	Transformation		Items		Gloss
	Singular	Plural	Singular	Plural	
1	a-stem	i-stem-an	a-lɣem	i-leɣm-an	camel
			a-segmi	i-segm-an	baby
2	0-stem	i-stem-an	filu	i-fil-an	thread
			fiɣer	i-fiɣr-an	snake
				ifiɣri-wen	
3	i-stem	i-stem-an	iɣzar	iɣzr-an	river
			yis	yis-an	horse
4	i-stem	i-stem(mod)-an	izi	iz-an	fly
5	a-stem	i-stem-(mod)-n	a-serd-u-n	i-serd-a-n	mule
6	0-stem	i-stem(mod)-an	ḍaḍ	i-ḍ-u-ḍ-an	toe

Type 2 includes masculine nouns ending with the suffix *-an* in the plural. It includes 6 cases and 9 items. Nouns of case 1 begin with *a-*, which changes into *i-* in the plural. Items of case 2 begin with a consonant and take the prefix *i-* in the plural, while the ones of case 3 already start with *i-* in the singular, and maintain this vowel in the plural. The noun of case 4, *i-z-i* (fly), keeps the initial *i-* in the plural too, but looses the second *-i*, resulting in *i-z-an.* The item of case 5 *a-serd-u-n* (mule) changes the initial *a-* into *i-*, and modifies *-u-* of the stem into *-a-*. The last case is the noun *ḍaḍ* (finger), which involves the triple process of prefixation by taking *i-*, stem modification by changing *-a-* into *-u-*, and suffixation by adding *-an*, resulting in *i-ḍ-u-ḍ-an.*

Table 5.24: Type 3 of the plural formation task for grade 8 children

Case	Transformation		Items		Gloss
	Singular	Plural	Singular	Plural	
1	t-a-stem-t	t-i-stem-in	t-a-ḥenjir-t	t-i-ḥenjir-in	girl
			t-a-fden-t	t-i-fedn-in	toe
2	t-0-stem	t-i-stem-in	t-faw-t	t-i-faw-in	light
			t-ɣa-ṭ	t-i-ɣaṭṭ-in	goat
				t-i-ɣeṭṭ-en	
3	st-a-m	st-u-m-in	t-a-ddar-t	t-u-dr-in	house

Type 3 contains feminine nouns with the suffix *-in* in the plural. These feminine nouns begin with *t-* and end with *-t*. These are feminine gender markers. In the plural, the first marker remains, while the latter disappears. There are 2 cases in this type and 4 items. Nouns of case 1 have *a-* after the feminine marker, which changes into *i-* in the plural. Items of case 2 do not have a vowel at the initial position of the stem; instead there is a consonant after the gender marker. These nouns take the prefix *i-* in the plural. The last item of case 3 changes the initial of the stem *a-* into *u-* in the plural.

Table 5.25: Type 4 of the plural formation task for grade 8 children

Case	Transformation		Items		Gloss
	Singular	Plural	Singular	Plural	
1	t-a-stem	t-i-stem-win	t-a-lefsa	t-i-lefs-i-win	viper
	t-a-stem	t-i-stem-tin	t-a-ziyya-t	t-i-ziyya-tin	bottle
2	t-stem	t-stem-awin	tiṭ	tiṭ-awin	eye

Nouns of case of 4 are feminine, taking the suffixes *-iwin*, *-tin*, and *-awin*. They are distributed over 2 cases with 3 items in total. Case 1 has 2 items, which change the initial *a-* after the feminine marker into *i-*. Item *tiṭ* of case 2 keeps the initial of the stem unchanged.

Table 5.26: Types of the plural formation task for grade 8 children

Case	Transformation		Items		Gloss
	Singular	Plural	Singular	Plural	
1	st-u-0-m	st-0-a-m-a	lk-u-r-si	lekrasa	chair
	i-st-e-m	i/a-st-a-m-(en)	t-i-ɣmest	t-i-ɣmas/a-ɣ-mas-en	
	a-st-0-m	i-st-u-m	ad-r-ar	i-d-u-rar	mountain
	stem	other-stem	bnadem	iwdan	person
	st-a-m	st-wa-m-a	lkazi	rekwaza	window

The last case contains 5 irregular nouns, i.e. 3 masculine and 2 feminine nouns. The noun *bnadem* (person) becomes *iwdan* in the plural, submitting to a total lexical change. The other nouns maintain the root of the stem unchanged as far as the consonantal skeleton is concerned. There are idiosyncratic changes in the vowels, though, such as *lkursi* (chair) becoming *lekrasa*.

The plural task for grade 8 children was conducted productively without a picture book. The children were told they were going to hear a word in the singular form, and had to give its plural form. Because Tarifit, as Berber languages in general, lacks conceptual words for reference to singular or plural, the Dutch equivalents were used in the Netherlands, and the Arabic ones in Morocco. This was necessary in order to make sure that the objective of the task was clear, in order to avoid any misunderstandings.

The children heard first the noun in the singular, such as *fus* (hand), and were asked to afford the plural form of it, i.e. *ifassen*. When children said that they did not know the plural, they were encouraged to say what they thought the plural would probably be, in order to avoid non-responses. The answers of the core group in the Netherlands were recorded on audiotape, while the answers of the reference group in Morocco were scored on print.

5.2.2 Data analysis

Answers were categorised the same way as with grade 1 children. The answers of both groups fell under the two main categories of correct versus incorrect plurals. A correct plural is one similar to the expected one, while a false plural is an answer with inappropriate plural rule application. There were hardly any answers in the singular form.

The data presentation follows the same structure as with grade 1 children. First the total scores of both the core group and the reference group will be presented (Table 5.27), followed by the scores on each type. This includes the correct scores and the type of errors. The reference group in Morocco achieved top scores, and thus it has been decided not to present these scores in the tables, but to comment on them during the discussion of the outcomes.

Table 5.27: Scores on the plural formation task for grade 8 children

Grade 1 children	N items	Mini	Maxi	Mean	%	S.D.
Core group	32	9	26	16.55	50	4.61
Reference group	32	31	32	31.55	99	0.68

The core group in the Netherlands achieved a mean of 16.55 out of a maximum of 32 items. There is a large discrepancy between the minimal and the maximal scores within the group. The mode was 14 items correct (5 times), while the median corresponded more or less with the mean with 16 items. 6 children scored between 9-13 items correct, 13 ones between 14-18 items, and 7 children between 19-26 items correct. The reference group in Morocco appeared to be homogeneous in scoring the maximum, i.e. between 31-32 items correct.

Table 5.28: Correct scores (%) on type 1 of the plural formation task for grade 8 children

Case	Singular	Plural	Core group
1	a-stem	i-stem-en	
	1 a-kniw *(twin)*	i-kniw-en/i-cniw-en/a-cniw-en	86
	2 a-ɣembub *(face)*	i-ɣembub-en/ i-ɣembab	62
	3 a-bliw *(eyelash)*	i-bliw-en/ a-bli-wen	82
	4 aryaz *(man)*	i-ryaz-en	100
2	0-stem	i-stem-en	
	5 ḍar *(foot)*	i-ḍar-en	100
3	i-stem	a-stem-en	
	6 i-ccar *(nail)*	a-ccar-en	14
4	a-stem	a-stem-en	
	7 a(ye)ncuc *(lip)*	ancuc-en/ayencuc-en	52
	8 anzer *(nose)*	anzar-en	11
5	0-stem	0-stem-awen	
	9 ul *(heart)*	ul-awen	22
6	0-stem	i-stem (mod)-en	
	10 fus *(hand)*	i-f-a-s-sen	81
	11 fud *(knee)*	i-f-a-d-d-en	11

As explained earlier, the nouns of case 1 are divided into 6 cases, all of which take the suffix *-en* in the plural. The difference between the cases pertains to prefix and/or infix inflections. The first item *akniw* (twin) has 2 correct plurals, one with prefixation scoring 64% correct, and the other one without prefixation, scoring 22% correct. As such, the noun scored in total 86% correct. The reference group in Morocco did just the opposite by scoring 12% correct only on the first option (*i-kniw-en*), and 88% correct on the second one (*a-kniw-en*).

Similarly, the second item *a-ɣembub* (face) has also two possible plural answers, i.e. one as the regular form *i-ɣembub-en* (faces), and the other one as the irregular form *i-ɣembab*. The scores of the core group in the Netherlands were mostly in the regular form with 40%, while the other form scored 22% correct. All children of the reference group in Morocco gave answers in the irregular form. The fact that most children in the Netherlands answered with the regular form suggests that they preferred to generalize the regular *i-en* transformation.

The third item *abliw* (eyelash) scored lower than the previous ones with 67% for the core group in the Netherlands. 15% of the answers were as *a-bliw-en*, by keeping the initial of the stem *a-* unchanged. The reference group in Morocco scored 76% correct on this item. The other 24% of the answers were as *a-bliw-en* too. The test instructors in Morocco did not consider this last form to be a possible correct answer. However, it was decided to consider the answer *abliw-en* as correct, given the answers of the reference group in Morocco. As such, the correct scores become 82% for the core group, and 100% for the reference group. The noun *aryaz* achieved a 100% correct score for both groups.

Case 2 includes the one item *ḍar* (foot). It does not have an initial *a-*, and it is subject to the prefixation of *i-*. The item itself is very frequently used, mostly in the plural form, which explains the maximum scores reached for both groups.

Case 3, represented by *iccar* (nail), has already *i-* in the singular form, which changes into *a-* in the plural (*a-ccar-en*). 14% of the children of the core group managed to give the correct answer. Most errors were due to keeping *i-* of the singular unchanged, and suffixing the stem with *-en* as *i-ccar-en*. The reference group scored 100% correct, i.e. as *a-ccar-en*.

Case 4 comprises 2 nouns with *a-* in the initial position, i.e. *ancuc* (lip) and *anzar* (nose). This initial *a-* of the singular does not change in the plural, and thus the item undergoes one change at the suffix level only, resulting in *ancuc-en* and *anzar-en*. For the first item, about half (52%) of the answers were correct, but the second item got only 11% correct answers. All but one of the errors in both cases were due to the transformation of *a-* into *i-*. 1 child used an *-s* suffix, resulting in *inza-s*. The fact that the item *anzer* got lower scores than *ancuc* could be due to its higher frequency as a singular form in everyday usage, while the latter is more frequent in its plural form.

Case 5 is represented by the item *ul* (hart) which submits only to a change at the suffix level as *ul-aw-en*. Most of the children in the Netherlands failed to provide the correct form. 19 false answers out of the total of 21 errors were due to the use of the suffix *-en*, resulting in *ul-en*. The other two answers were *ula-wet* and *i-wal-en*.

Case 6 includes the two items *fus* (hand) and *fud* (knee), which require the triple transformation of prefixation, stem modification, and suffixation. The item *fus* got 79% correct answers, while the noun *fud* got only 13% correct. The item *fus* is very frequent, and appears mostly in the plural form. The children seemed to be familiar with this form. The item *fud* (knee) is less frequent. As such, the children had to produce a plural using the plural rule system at their disposal, resulting in 41% answers with pre-suffixation as *i-fud-en*, and 33% answers with suffixation only as *fud-en*.

In conclusion, children of the core group in the Netherlands succeeded much better with the items of case 1, which apply the most regular rule of pre-suffixation of *i-en*. Besides, they scored better with respect to frequently used words such as *ḍar* (foot) and *fus* (hand). Problems occurred when the plural rule of the noun deviates from the norm of *i-en*. The suffix *-en* was correctly applied in most cases. The reference group in Morocco scored 100% correct on all items.

Table 5.29: Errors on type 1 of the plural formation task for grade 8 children in the Netherlands

Affixation	Case	Items	Prefix	Infix	Suffix	Pre-in	Pre-suf	Pre-in-suf	Total
Pre-suf	1	1 akniw			4				4
		2 aɣembub	7		1				8
		3 abliw			3		2		5
		4 aryaz	12						12
	2	5 ḍar			1				1
	3	6 iccar	23						23
Suffix	4	7 ancuc	6				3		9
		8 anẓar	14				6		20
	5	9 ul			20		1		21
Pre-in-suf	6	10 fus				5			5
		11 fud		9		8		3	20
Total			62	9	29	13	11	3	107
%			49	7	23	10	9	2	100

Following the scores presented in Table 5.29, prefixation turned out to be the major source of errors for the children in the Netherlands with 70% of the total errors (89 times out of 107), 49% of which were at the prefix level only. The prefix errors had 2 sources, i.e. first due to the absence of prefixation at all, and second due to transforming *a-* of the 2 items of case 4 into *i-*. Errors at the suffix level made up 34% of the total errors, of which 29% were at the suffix level only. The item *ul* was suffixed incorrectly with *-en* 20 times out of a total of 21 errors. Nearly all children ignored the process of stem modification. 3 children only provided the correct plural form for the item *fud* of case 6.

Table 5.30: Correct scores (%) on type 2 of the plural formation task for grade 8 children

Case	Singular	Plural	Core group
1	a-stem	i-stem-an	
	12 a-lɣem *(camel)*	i-leɣm-an	33
	13 a-segmi *(baby)*	i-segm-an	54
2	0-stem		
	14 fil-u *(thread)*	i-fil-an	70
	15 fiɣer *(snake)*	i-fiɣr-an/ i-fiɣri-wen	70
3	i-stem	i-stem-an	
	16 i-ɣzar *(river)*	i-ɣzr-an	48
	17 yis *(horse)*	yis-an	41
4	i-stem	i-stem(mod)-an	
	18 i-z-i *(fly)*	iz-an	56
5	a-stem	i-stem-(mod)-n	
	19 a-serd-u-n *(mule)*	i-serd-a-n	44
6	0-stem	i-stem(mod)-an	
	20 ḍaḍ *(finger)*	i-ḍ-u-ḍ-an	15

This second type contains 6 cases, distinguished on the basis of prefix and/or infix changes. The scores of the core group on case 2 balanced between 15-70% correct. The item *ḍaḍ* (finger) of case 6 resulted in the lowest score with 15% correct, while the

items *filu* and *fiɣer* of case 2 achieved the highest score with 70%. The reference group in Morocco scored 100% correct on all items of this type, with the exception of item 19 obtaining 95%.

Failures of the core group on this type were primarily due to erroneous suffixation and, to a lesser extent, incorrect prefixation. In suffix position, the mistaken answers mainly involved the suffixation of *-en*, either alone or in combinations as *y-en*, *w-en*, or *t-en*. A few other suffixes were used as well, such as *-t*, *-n*, and even *-s*. A common prefix error was keeping *a-* unchanged for case 1 with 14 times, and for case 5 with 12 times.

All items which require stem modification, caused a problem. Case 5 triggered 12 false answers; 11 of them had to do with stem modification, i.e. 7 errors as *i-serdun-en*, without infixation and incorrect *-en* suffixation, and 4 errors as *i-serd-u-n*, without infixation. Because the item ends with *-n*, the children apparently did not suspect that another change was needed. One answer correctly infixed the item, but kept the prefix unchanged as *a-serd-a-n*. Case 6 engendered similar results, in that 10 errors were due to incorrect stem modification and suffixation, and 12 errors were caused by errors at all positions of prefixation, stem modification, and suffixation.

The results of type 2 show that the suffix *-an* was a major source of trouble for the children in the Netherlands. They often opted for the suffix *-en* instead. The reference group in Morocco did not show any difficulty at this respect.

Table 5.31: Errors on type 2 of the plural formation task for grade 8 children in the Netherlands

Affixation	Case	Items	Prefix	Infix	Suffix	Pre-in	Pre-suf	In-suf	Pre-in-suf	Total
Pre-suf	1	12 alɣem			9		1			10
		13 asegmi	4				7			11
	2	14 filu			7		2			9
		15 fiɣer			3		4			7
	3	16 iɣzar			13					13
		17 yis			8		2			10
	4	18 izi			11					11
Pre-in	5	19 aserdun	1	11						12
Pre-in-suf	6	20 ḍaḍ						10	12	22
Total			5	11	51	–	16	10	12	106
%			5	11	48	–	15	10	11	100

Unlike type 1, the main problem for type 2 was related to the suffix *-an*. Errors at the suffix position only (i.e. with a concomitant correct prefix) comprised 48% of the total number of errors. The suffix *-en* was used in 69% of the total of (suffix) errors. It was used in 23% of the cases by itself, and in 46% in combinations as *-w-en*, *-y-en*, *-t-en*, or *-n-en*. These combined forms were mostly used with items that end in a vowel in the singular, e.g. *asegmi-yen*, *filu-wen*, and *izi-ten*. Items ending in a consonant were mostly suffixed with *-en* only. Errors related to the prefix only made up 5% of the errors, caused by keeping the stem unchanged. Items starting out with other sounds

than *a-* were particularly susceptible to such errors. Similarly, the infix position by itself was the source of 11% of th errors, due to neglecting the modification the stem. The same case of errors was encountered in double positions, i.e. pre-suffixation 15%, and in-suffixation 10%, or in the triple position of pre-in-suffixation with 11%.

There is actually a difference in the case of errors at the level of the suffix on the one hand, and the prefix and infix positions on the other hand. In the former case, errors are due to mis-inflections, by using *-en* instead of *-an*. The children were actually aware of the necessity of the suffixation process for plural formation. In the latter cases, the children ignored the 2 processes of prefixation and infixation at all, which automatically resulted in zero inflections.

Table 5.32: Correct scores (%) on type 3 of the plural formation task for grade 8 children

Case	Singular	Plural	Core group
1	t-a-stem-t	t-i-stem-in	
	21 t-a-ḥenjir-t *(girl)*	t-i-ḥenjir-in	92
	22 t-a-fden-t *(toe)*	t-i-fedn-in	63
2	t.0.stem	t-i-stem-in	
	23 t-faw-t *(light)*	t-i-faw-in	70
	24 tγaṭ *(goat)*	t-i-γaṭṭ-in/t-i-γeṭṭ-en	40
3	t-a-stem-t	t-u-stem -in	
	25 t-a-d-d-a-rt *(house)*	t-u-dr-in/t-i-dd-u-r-a	44

Item 21, a very frequently used noun, had the highest correct score with 92%. Presumably, its higher frequency than item 22, scoring 63%, explains why the latter scored lower, even though both of them require the same transformations. Item 22, *tafdent* (toe), was done incorrectly 6 times, i.e. 3 times because of a wrong suffix as *ifd-en*, *tifed-in-en*, and *tifdawin*, twice because of a prefix error as *ta-fedn-in*, and once because of a pre-suffixation error as *ta-fedn-in-en* with a double suffix as *-in-en*. The item *taddart* (house) of case 3 transforms the initial *a-* of the singular into *u-* or *i-*. It has 2 possible correct answers. Most of the answers were in the form of *tudrin* with 26%.

Items of case 2 submit to the same transformations. However, item 23 was treated correctly much more often than item 24. 2 of the errors with respect to item 23 involved lack of prefixation, resulting in *tfawtin* and *tfawin*, and 7 other errors were due to lack of prefixation combined with a suffix mis-inflection, by using *-en*, resulting in *tfawt-en*.

Item 24 has 2 possible correct answers. The regular form *tiγaṭṭin* was given more often (33%) than the irregular form *tiγeṭṭen* (7%). All errors were marked by the use of the suffix *-en*, but lacked the prefixation *i-*, resulting in answers as *t-γaṭṭ-en* 14 times, or as *t-γaṭṭ-in* twice. The last item *taddart* obtained 15 erroneous answers, i.e. 7 times as *tiddar-in*, 4 times as *taddart-en*, 3 times as *taddart-in*, and once as *tiddar*.

The children in Morocco scored 100% correct on all items of type 3. Item 24 scored 100% correct as *t-i-ɣeṭṭ-en*. It is to wonder why no single answer was given as *t-i-ɣaṭṭ-in*, in conformity with the general feminine rule of plural formation.

Table 5.33: Errors on type 3 of the plural formation task for grade 8 children in the Netherlands

Affixation	Case	Items	Prefix	Infix	Suffix	Pre-suf	Total
Pre-suffixation	1	21 taḥenjirt	1				1
		22 tafdent	2		3		5
	2	23 tfawet	2			7	9
		24 tɣaṭ	16				16
	3	25 taddart				7	
Total			21	–	3	14	38
%			56	–	7	37	100

The total number of errors of type 3 was 38, of which 93% (35 times) were at the prefix level, either alone with 56% (21 times), or in combination with the suffix with 37% (14 times). More prefix errors were met with respect to nouns of case 2, which do not have *a-* after the feminine marker. Errors at the suffix level were 17 in total, i.e. 3 times alone, and 14 times in combination with the prefix. Suffix errors were due to the use of the suffix *-en* instead of *-in*. The low number of errors in relation to the suffix is partially due to item 24, bearing a second correct plural form ending with *-en*. All in all, the children have not perceived the suffix *-in* as a plural marker for feminine nouns yet.

Table 5.34: Correct scores (%) on type 4 of the plural formation task for grade 8 children

Case	Singular	Plural	Core group
1	t-a-stem	t-i-stem-win	
	26 t-a-lefs-a *(viper)*	t-i-lefsi-win	22
	t-a-stem	t-i-stem-tin	
	27 t-a-ziyya-t *(bottle)*	t-i-ziyya-tin	100
2	t-i-stem	t-i-stem-awin	
	28 tiṭ *(eye)*	tiṭ-ṭawin	82

Items of type 4 differ from each other with respect to the prefix, i.e. items of case 1 take the prefix *-i* in the plural, while the item of case 2 has already *i-* in the stem initial position, and does not require any change at the prefix level. Items 27 and 28 obtained the highest scores with 100% and 82% correct, respectively.

The former noun top achievement is probably due to its familiarity and ubiquity in daily life. The item *tiṭ* (eye) is most commonly used in the plural, so it is likely that this plural form is acquired before the singular one. The usual source of error with respect to this item was the use of an inappropriate suffix, resulting in answers as *tit-en*, *tiṭ-awen*, and *tiṭ-in*. In one case, the prefix *a-* was erroneously used, after having omitted the feminine marker, to get *aṭṭ-awin*. Item 26 of case 1 got a very low score. It is a hyponym of *fiɣer* (snake) used in type 2, which obtained 70% correct. Item 27

resulted in 18 incorrect answers. 7 errors concerned the suffix only, resulting in answers like *i-lefsa-wen*, *t-i-lefsa-ten*, *t-i-lefsa-n*, *t-i-lefsa-yen*, or *t-i-lefs-in* (3 times). The other 11 errors were at the double level of pre-suffixation, caused by lack of prefixation and application of various incorrect suffixes, like *-en* in *t-a-lefs-en*, *ren* in *t-a-lefsa-ren*, *-t* in *t-a-lefsa-t*, and *-n* in *t-a-lefsa-n*.

Table 5.35: Errors on type 4 of the plural formation for grade 8 children in the Netherlands

Affixation	Case	Items	Prefix	Infix	Suffix	Pre-in	Pre-suf	Total
Pre-suffixation	1	26 talefsa			7		11	18
		27 taziyyat						–
Suffixation	2	28 tiṭ			3		1	4
Total			–	–	10	–	12	22
%			–	–	45	–	55	100

The number of errors with respect to type 4 was 22. The suffix turned out to be the major problem marking all errors, either by itself with 45% (10 times), or together with the prefix with 55% (12 times). A variety of suffixes were used, such as *-en* (6 times), *-in* (4 times), *-an* (4 times), *-wen* (3 times), *-t* (3 times), *-ren*, and *yen*. 18 of these 22 afforded wrong suffixes are clearly not feminine. This reinforces the assumption that the children have not realized that *-in* in general, or *-win*, and *-tin* in particular, are feminine suffixes and that the others are not. Errors related to the prefix were 12, 11 times in relation to item 26, caused by failure to change the stem initial *a-* into *i-*, and once with respect to item 28, due to the omission of the gender marker *-t*. All these prefix errors emerged together with errors at the suffix level. There were no errors at the prefix level only.

Table 5.36: Correct scores (%) on type 5 of the plural formation task for grade 8 children

Case	Singular	Plural	Core group
1	st-u-0-m	st-0-a-m-a	
	29 lkursi *(chair)*	lekrasa	44
	st-e-m	i-st-a-m-(en)	
	30 tiɣmest *(tooth)*	tiɣmas/aɣmasen	43
	stem	other-stem	
	31 bnadem *(person)*	iwdan	48
	st-a-m	st-wa-m-a	
	32 lkazi *(window)*	lekwazi	19

The correct scores on the irregular plurals balanced between 19% correct as the lowest and 48% as the highest. Item 32 *lkazi* (window) scored the lowest, while item 3 *bnadem* (person) scored the highest. The first remark concerns the use of the suffix *-s* as a plural marker, once with item 29 as *lekrasa-s*, twice with item 31 as *bnadem-s*, and once with item 32 as *lkazi-s*. All in all, the children tried to realize the plural 17 times by means of suffixation, twice by means of prefixation, and twice by means of stem modifica-

tion. Besides, the regular feminine suffix *-in* was used 10 times with the feminine noun *tiγmest* (tooth), and 11 times with respect to *taddart* (house).

Table 5.37: Strategies applied with irregular forms of the plural formation task for grade 8 children in Netherlands

N	Transformation			Frequency					Total
	Prefix	Infix	Suffix	Prefix	Infix	Suffix	Pre-suf	In-suf	
1			-t			9			9
2			-w		4				4
3			-ran			1			1
4			-yen			6			6
5			-u		1				1
6			-yat			3			3
7			-sen			1			1
8		-w-	-a					1	1
9		-w-	-s					1	1
10			-in			14			14
11			-en			12			12
12	i-			5					5
13			-i	1					1
14			-at			1			1
15			-s			3			3
17			-ten			2			2
18			-yet			3			3
20			-ran		1				1
21	i-		-in				7		7
22	i-		-(t)				1		1
23	i-		-t				5		5
Total				6	6	55	13	2	81
%				7	7	67	16	3	100

The most common transformation strategy for irregular nouns was suffixation with 86%, mostly used as the one strategy with 67%, to a lesser extent together with prefixation strategy with 16%, and sporadically with infixation with 3%. All kinds of suffixes were tried, i.e. *-in* 21 times, *-t* 14 times, and *-en* 12 times. The prefixation process was seldom applied, with 7% only. The prefix *i-* was the only one used. These results confirm that the children in the Netherlands use one specific strategy for plural formation, i.e. suffixation.

No analysis of the strategies followed by the reference group in Morocco has been conducted, as was done with grade 1 children; the group scored (nearly) 100% correct on all items.

5.2.3 Conclusions and discussion

Table 5.38 gives a listing of all items of the plural formation task, and the score each item obtained. With the support of this table, we may uncover trends that have played a role in bringing about these results, such as the item's gender, the kinds of

transformation required in terms of prefixation, infixation, or suffixation, and the actual morphological changes items calls for. The first column of Table 5.38 lists the items of the plural formation task. The second column exhibits the score of each item, in descending order, based on the percentage of correct answers. The third column shows the gender of the items. Column 4 states the types the items belong to as operationalized in the task, while columns 5 and 6 describe the level and the nature of the transformation required.

Table 5.38: Correct scores (%) on items of the plural formation task for grade 8 children in the Netherlands

Ranked items		%	Gender	Type	Affixation	Change
1	taziyat	100	feminine	4	pre-suffix	a/i-tin
2	ḍar	100	masculine	1	pre-suffix	0/i-en
3	taḥenjirt	92	feminine	3	pre-suffix	a/i-in
4	akniw	85	masculine	1	pre-suffix	a/i-en
5	tiṭ	81	feminine	4	0-suffix	0-win
6	fus	81	masculine	1	pre-in-suffix	0/i-u/a-en
7	tfawt	70	feminine	3	pre-suffix	0/i-in
8	filu	70	masculine	2	pre-suffix	0/i-u/an
9	abliw	66	masculine	1	pre-suffix	a/i-en
10	fiɣer	66	masculine	2	pre-suffix	0/i-an
11	tafdent	62	feminine	3	pre-suffix	a/i-in
12	iɣzar	62	masculine	2	0-suffix	0-(a)n
13	aserdun	59	masculine	2	pre-infix	a/i-u/a-0
14	izi	55	masculine	2	0-suffix	0-i/an
15	asegmi	51	masculine	1	pre-suffix	a/i-i/an
16	ancuc	51	masculine	1	0-suffix	0-en
17	iɣzar	48	masculine	2	0-suffix	0-an
18	aryaz	48	masculine	1	pre-suffix	a/i-en
19	lkursi	48	masculine	5	irregular	–
20	bnadem	48	masculine	5	irregular	–
21	taddart	44	feminine	5	irregular	–
22	tiɣmest	44	feminine	5	irregular	–
23	tɣaṭ	40	feminine	3	pre-suffix	0/i-in/en
24	yis	40	masculine	2	0-suffix	0-an
25	alɣem	33	masculine	2	pre-suffix	a/i-an
26	ul	22	masculine	1	0-suffix	0-wen
27	talefsa	22	feminine	4	pre-suffix	a/i-iwin
28	lkazi	18	masculine	5	irregular	–
29	ḍaḍ	16	masculine	2	pre-in-suffix	0/i-a/u-an
30	iccar	14	masculine	1	pre-suffix	i/a-en
31	anzer	11	masculine	1	0-suffix	0-en
32	fud	11	masculine	1	pre-in-suffix	0/i-u/a-en

The items tested in the task included both masculine and feminine nouns, spread over 4 cases, 2 for each gender. In addition, a number of items with irregular plurals were included. The distinction between the 2 cases per gender was exclusively based on their

suffixation patterns. At the prefix level, with few exceptions, all items take *i-* in the plural, either as a transformation of the initial *a-* of the singular or as an addition to the stem in case the stem begins with a consonant.

Table 5.38 shows that highly frequently used items in daily life obtained high correct scores, irrespective of the transformations they undergo. 5 of these items, i.e. *taziyyat*, *ḍar*, *taḥenjirt*, *tiṭ*, and *fus*, were expected to be easy, and therefore introduced at the beginning of the task in order to encourage the children at the start of the task. The first 16 items scored at least 50% correct. These items belong to both masculine and feminine forms, involve the double transformation of pre-suffixation, take the prefix *i-*, and one of the suffixes *-en*, *-in*, or *-an*, with the exception of the items *fus* and *tiṭ*. The 12 following items scored lower than 50% correct. These include all irregular nouns. The last 4 items include 2 items that require the triple pluralization process of prefixation, stem modification, and suffixation.

The reference group in Morocco reached top scores on all cases. They showed no problems with any of the plural types. This does not come as a surprise, since the children were aged 11-13 years, and lived in a Tarifit speaking area. Given these conditions, the children were expected to be beyond the final stage of morphological acquisition.

The core group in the Netherlands scored best with respect to the 2 regular forms of masculine *i-en* and feminine *i-in*. At the same time, the masculine suffix *-en* was overgeneralised, even with some feminine nouns. Table 5.39 shows the total number of errors with respect to the different processes of prefixation, suffixation, infixation, and their various combinations, in decreasing order of occurrence.

Table 5.39: Error levels of the plural formation task for grade 8 children in the Netherlands

	Prefix	Suffix	Pre-suffix	In-suffix	Pre-in-suffix	Infix	Total
Total	72	43	42	14	14	10	195
%	36	23	22	7	7	5	100

The most common affixation process of plural formation in Tarifit is the dual process of prefixation and suffixation. However, the children's treatment of these 2 components differed. Errors at the prefix level were most common, making up 65% of the total number of errors. The prefix errors were distributed over different contexts. In 36% of cases, the errors were at the prefix level only, while the suffix was correctly adjusted. In 22% were the errors at both the prefix and suffix levels; and in 7% at the 3 levels of the prefix, infix and suffix. As to the nature of the prefix errors, 60% were due to lack of prefixation, by bringing no change to the initial of the stem. This implies that the children were not yet aware of the role prefixation plays in pluralization in Tarifit.

Errors at the suffix level made up 59%. Most of the errors were either at the suffix level only with 23%, i.e. while the noun was correctly prefixed, or together with errors

at the prefix level with 22%. However, unlike prefix errors, suffix errors were caused by mis-inflection, and not by absence of inflection. The children attempted suffixation, but performed the wrong transformation. This holds true for 91% of all suffix errors. The suffix *-en* was applied instead of *-an* with 48% (20 times), instead of *-win* with 28% (12 times), or *-in* with 10% (10 times). The overgeneralization of the suffix *-en* took place either as such or in combinations like *-t-en, -y-en, -n-en,* or *-w-en.* These combinations were witnessed mainly with nouns ending in a vowel such as *talefsa* or *filu.*

To sum up, there is a difference in the performance of the children with respect to prefix and suffix processes. The prefix errors occurred at 2 levels. The first level concerns the prefixation process itself, in that the children were not at all aware of the role prefixation plays in pluralization, and thus ignored it. The second level is an automatic result of the first one, due to the application of zero inflection at the prefix level. In contrast, suffix errors occurred at 1 level only, i.e. the children were conscious of the role of suffixation as a mean of pluralization in Tarifit. Yet, they missed the right suffix inflection. 2 hypotheses are advanced in this respect. The first one is transfer from Dutch. Since Dutch marks the plural by means of suffixation only, children may have worked out the rule for pluralization in Tarifit on this basis too. A second reason may be saliency, i.e. 'a rough estimation of the degree to which a marker is perceptually detectable by a listener, in other words, its acoustic prominence' according to Köpcke (1998), or what MacWhinney (1985) refers to as 'detectability'. We may assume that, in general, suffixes are more salient than prefixes. Things may also be more complicated, though. The saliency of affixes may differ between specific prefixes and specific suffixes. Still, it sounds plausible that Tarifit suffixes (whether some or all of them) are more salient than the prefix *i-*. The saliency of suffixes could also be a result of the degree of frequency of prefixes and suffixes. Prefixation is not always involved in pluralization in Tarifit, since a number of nouns despite of their very scarce number are not prefixed at all, as *a-ncuc/ancuc-en* (lip).

Another fact to be explained is why it is the suffix *-en* that was overgeneralised rather than any of the other suffixes. This fact could be linked to two factors. First, *-en* occurs in more plural masculine nouns in Tarifit than any other plural masculine suffix, making of it the default suffix, dominating even the feminine frequent suffix *-in.* A default regularisation process will emerge in a network when it is exposed to a suitably configured vocabulary for a sufficient number of training trials (Plunkett & Marchman, 1993). Second, the suffix *-en* is a prototypical plural suffix in Tarifit. As such, prototypical regular forms are acquired first, and preserved best in language loss situations (Smith, 2001). It is also possible to hypothesize the notion of another transfer effect from Dutch, where the same sequence *-en* is a salient marker of pluralization. This transfer possibility should not to be neglected, especially since the alternative Dutch plural marker *-s* was applied a few times; once with *filu* as *filu-s* and

with *lkrazi* as *lkazi-s*. Two answers were as *bnadem-z*. The combination of these two facts, i.e. that *-en* is a major plural suffix in both Tarifit and Dutch, may have strengthened the position of this suffix, vis-à-vis its rivals in Tarifit, as the plural marker par excellence. As for the infix, 4 items only in the task undergo stem modification, i.e. *f-u-d/if-a-d-d-en*, *f-u-s/if-a-s-sen*, *ḍaḍ/iḍuḍan*, and *aserd-u-n/i-serd-a-n*. Errors at this level were caused by the application of a zero infixation strategy, the same way as with prefixation.

As to the irregular nouns, they were mostly treated as regular forms by submitting them to suffixation, and few times to prefixation. However, the item *lkursi/lekrasa* (chair) was treated like the other irregular noun *lkazi/lekwaza* (window), resulting in *lekwasi* (4 times), *lekwasa*, and *lekwasis*. These 2 items are very similar from a morphological point of view. Prasada and Pinker (1993) found that people generalise irregular patterns only to items that are highly similar to familiar items, but generalise regular patterns even to highly dissimilar items. This claim justifies the treatment of the item *lkursi* the same way as the irregular item *lkazi*, and not subjected to one of the regular rules such as suffixation with *-en*.

The last issue to be discussed here is the discrepancy in the scores for a few nouns, such as *fus* (hand) and *fud* (knee), which involve the same plural rule.This issue can be explained by the fact that the items with the higher scores are more frequently used in daily life than the items with the lower scores.

CHAPTER 6

Case marking

Case marking in Tarifit concerns the shift of a noun form from the free to the construct state, in post-prepositional and post-verbal positions when the noun itself is the subject. This change in state takes place by means of the alteration of the initial vowel of the noun. However, not all nouns change state, i.e. some nouns keep always the same form (see Chapter 1). Chapter 6 deals with the case marking task for grade 1 children (part 6.1) and grade 8 children (6.2), in the Netherlands and Morocco.

6.1 Grade 1 children

6.1.1 Task description and data collection procedure

The task for grade 1 children deals with case marking in the one context of post-prepositions. The task consists of 15 items. 9 nouns change form from free to construct state, and 6 have the same form regardless of their case. The invariable nouns serve to distract children from the main goal of the task, and will not be discussed any further. Of the 9 nouns, 6 are masculine and 3 are feminine. Masculine nouns take the prefix *a-* or have no prefix in the free state. In the construct state, the prefix changes to *u-*, *wa-* or *we-*. Feminine nouns have the gender marker *t-* followed by the vowel *-a-* or *-i-*, which is deleted in the construct state, as in *t-a-ḥenjirt* (girl) becoming *t-ḥenjirt*. The nouns used in the task are in the singular form, except for the mass noun *aman* (water), which has a plural form in Tarifit, e.g. *aman ttazlen* (water-are-running). Nouns used in the task for grade 1 children are presented in Table 6.1. They are categorised into cases, depending on the initial of the noun in the free state, and the change taking place in the construct state.

Table 6.1: Nouns used in the case marking task for grade 1 children

Gender	Case	Free state	Construct state	Gloss
Masculine	1	1 a-ḥenjir	u-ḥenjir	boy
		2 a-ɣerda	u-ɣerda	mouse
		3 a-serdun	u-serdun	mule
	2	4 0-mucc	u-mucc/w-mucc	cat
	3	5 a-qzin	u-qzin/we-qzin	dog
	4	6 a-man	wa-man	water
Feminine	5	7 t-a-ḥenjirt	t-0-ḥenjirt	girl
		8 t-a-murt	t-0-murt	floor
		9 t-a-senduqt	t-0-sendurt	box

The masculine nouns are divided into 4 cases, distributed over 4 masculine cases and 1 feminine case. Items of case 1 change *a-* into *u-*. The item in case 2 has a zero prefix in the free state, and takes the prefix *u-/w-* in the construct state. The third case item changes the prefix *a-* into *u-/we-*, and the last case of masculine transforms *a-* into *wa-*. The 3 feminine nouns in case 5 have the same form in the free state, i.e. *t-a-stem*, and submit to the same change in the construct state, by deleting the vowel *-a-*. The construct forms, presented in Table 6.1, do at least apply in the contexts in which they appeared in the present task.

The task is conducted with a picture book. The child is shown a picture and is asked to complete the sentence given by the test administrator. For example, to generate the construct form of the noun *t-a-ḥenjirt* (girl), the child is shown first a picture of a woman washing a girl, after which s/he hears the stimulus question *min ttegg temɣart?* (what is the woman doing?). The expected answer is *tessirid i tḥenjirt* (she is washing the girl), with the noun *tḥenjirt* in the correct construct form. The child has to use the preposition *i* and the noun afterwards. If the child ignores the preposition, the noun afterwards does not have to be in the construct state. Thus, the child was instructed to give the answers to questions by using the preposition and the noun.

6.1.2 Data analysis

Answers of grade 1 children were categorized into correct and false answers. Correct answers are answers given in the expected construct form, and answers different from the expected one, but judged by the test instructors in Morocco as correct. False answers have two forms; first answers in the free state, and second answers in the construct state, but with the false transformation. A number of answers were not considered in the data analysis, i.e. responses with nouns that have only a free state form instead of the requested one, such as when using the noun *lebḥar* (sea), having no construct form, instead of *waman* (water); when affording answers in Dutch or Arabic; when using pronouns like *issirid as* (he is washing him) instead of *issirid i uḥenjir* (he is washing (to) the boy); and when children ignored the use of the preposition before the noun, as in *ixezzar taḥenjirt* (he is looking the girl) instead of *ixezzar ɣar t-ḥenjirt* (he is looking at the girl).

The outcomes of the case marking task for grade 1 children are presented below. Table 6.2 shows the total scores obtained by both the core group in the Netherlands and the reference group in Morocco. Table 6.3 presents the scores on the masculine nouns, and Table 6.4 on the feminine nouns of the core group in the Netherlands. These two tables give an overview of the correct scores as well as the types of errors committed. The reference group achieved top correct scores on the items of the task, which makes it unnecessary to present these scores here.

Table 6.2: Scores on the case marking task for grade 1 children

Grade 1 children	N items	Mini	Maxi	Mean	%	S.D.
Core group	9	–	4	1	11	1.12
Reference group	9	3	8	6	67	1.35

The scores of the core group on the case marking task as a whole are very low, with a mean of 1 item correct. The maximum correct score of the group is 4 items correct, achieved by 2 children. 38% (12 children) gave no correct answer for any of the task items. The same percentage of children had 1 item correct. 12% had 2 items correct, 1 child obtained 3 items correct, and 2 children got 4 items correct as the maximum score.

As to the reference group, 67% of the answers were correct. The minimum score was 3 items correct (out of 9) obtained once, while the highest score was 8 items correct obtained 3 times. 90% of the children had 5 items or more correct. The resulting difference between the core group and the reference group is very large.

Table 6.3: Scores (%) on masculine nouns of the case marking task for grade 1 children in the Netherlands

Case	Items		Correct	False	
	Free state	Construct state		Free state	Construct state
1	1 a-ḥenjir *(boy)*	u-ḥenjir	31	69	–
	2 a-ɣerḍa*(mouse)*	u-ɣerḍa	–	100	–
	3 a-serdun *(mule)*	u-serdun	21	58	21
2	4 0-mucc *(cat)*	u-mucc	7	93	–
3	5 a-man *(water)*	wa-man	33	62	5
4	6 a-qzin *(dog)*	we-qzin	9	82	9

The correct scores of the core group were very low on all items. Items as *aḥenjir/uḥenjir* (boy), *aserdun/userdun* (mule), and *aman/waman* (water) had a relatively higher percentage of correct scores. The item *aɣerda/uɣerda* (mouse) got a zero correct score. The reference group in Morocco achieved 100% correct on 5 of the 6 items. The second item *aɣerḍa* got 1 mistaken answer in the free form.

As to the errors of the core group, the use of the free state instead of the construct state was a common practice. Very few incorrect answers were given in the incorrect construct state. The third item of case 1 obtained 3 answers as *y-aɣyur* (donkey) instead of *w-eɣyul*, *y-aḥuli* (sheep) instead of *u-ḥuli*, and *y-afunas* (cow) instead of *u-funas*. Similarily, the item *aman* (water) of case 3 got *y-aman* as answer instead of *w-aman*, and the item *aqzin* (dog) got *y-aqzin* instead of *w-eqzin*. What is common in these answers is the use of the construct forms by means of *y-* together with the preposition *i*, instead of the preposition *x* (on/(looking) for). Another interpretation is that the morpheme *y-* is not used as a marker of construct state, but a result of a phonotactic process, triggered by the preposition *i* in combination with the initial vowel of the stem *a-*, resulting in *i y a*-stem.

Table 6.4: Scores (%) on feminine nouns of the case marking task for grade 1 children in the Netherlands

Case	Items		Correct	False	
	Free state	Construct state		Free state	Construct state
5	7 t-a-ḥenjirt *(girl)*	t-ḥenjirt	12	88	–
	8 t-a-mmurt *(ground)*	t-murt	75	25	–
	9 t-a-senduqt *(box)*	t-senduqt	10	90	–

With respect to the feminine nouns in Table 6.4, the item *t-a-murt* (ground/floor) got a high percentage of good answers, whereas the other 2 items scored very low. This large discrepancy in the scores among the feminine nouns shows that the children were inconsistent in using the construct state. This implies that they have not yet mastered the underlying rules. The type of errors reinforces this assumption. Once again, the children appeared to use the noun in 1 form, i.e. the free state. In contrast, the reference group reached the maximum score with respect to items 7 and 8. For item 9, 1 child gave a mistaken answer in the free state as *qedduḥ*, instead of the last item *t(a)senduqt*.

All in all, given the scores for the masculine as well as the feminine nouns, the children in Morocco appeared to have no difficulty in using the construct state when the noun occurs after prepositions. In contrast, the children in the Netherlands appeared to have hardly any command of the construct state. They kept the nouns in the free state unchanged.

6.1.3 Conclusions and discussion

Table 6.5 is meant to show whether or not there is a trend behind the scores of the children in the Netherlands. The first column lists the numbers of the items; the second column includes the items of the task, arranged in descending order based on the correct scores of the children in the Netherlands; the third column shows the scores obtained for each item, while the following columns describe the gender of the noun, the case to which the nouns belong as stated in Table 6.1, the prefix of the noun in the free state, and the transformation taking place in the construct state, respectively.

Table 6.5: Correct scores (%) on items of the case marking task for grade 1 children in the Netherlands

Ranking	items	%	Gender	Cases	Free state	Construct state
1	tmurt	75	feminine	4	-a-	-0-
2	waman	33	masculine	3	a-	wa-
3	uḥenjir	31	masculine	1	a-	u-
4	userdun	21	masculine	1	a-	u-
5	tḥenjirt	12	feminine	4	-a-	-0-
6	tṣenduqt	10	feminine	4	-a-	-0-
7	uqzin	9	masculine	3	a-	u/we-
8	umucc	7	masculine	2	0-	u-
9	uɣerda	–	masculine	1	a-	u-

The gender column shows that masculine nouns are both at the top and bottom of the list. The first item is a feminine noun, while the other 2 feminine nouns are ranked in the middle. The effect of gender on the scores is not clear, due to the small number of items in general, and feminine nouns in particular. The same observation holds for the second criterion of noun case, in which no clear distinction is made on this basis. As far as the free state column is concerned, it is not possible to make any deductions based on the type of the vowel subject to change in the construct state, because all nouns except one have *a-* stem initially in the free state. As to the last column, there seems to be no trend in favour of one or the other inflectional transformations, occurring in the construct state.

In general, the children of the reference group made 3 errors only. In contrast, the core group failed on the task as a whole. Very few correct answers were given. There was no difference in performance between masculine and feminine nouns, or with respect to vowel type transformation. The errors of the core group were due to the use of the free state and not to the use of false construct forms, with very few exceptions. This implies that the children of the core group mastered one form of the noun only, i.e. the free state form. This state is the unmarked form.

The gap in performance between the reference group in Morocco and the core group in the Netherlands is extremely large. The reference group has first clearly caught up (unconsciously) the existence of the construct form as another form of the noun, and secondly succeeded in giving the noun the right construct state form. The core group still used the free state. This implies that they had not reached the construct form awareness stage yet, which automatically leads to the use of mistaken forms. Errors due to answers in the free form evoke a lower proficiency stage than when the errors would be caused by the use of mistaken construct forms, due to mis-inflections.

There are many grammatical factors responsible for the delay or non-acquisition of the construct state by the core group in the Netherlands. The first one is the type of nouns. Chomsky (1981), in his principles and parameters framework, makes a distinction between lexical and functional categories. Examples of lexical categories are nouns (N), verbs (V), and their maximal projections. Examples of functional categories

are inflections, complementizers, and their maximal projections. The change brought to the construct state is at the level of grammatical inflections. Construct state noun forms cannot be acquired as lexical types as opposed to free state nouns. Radford (1990) argues that in the earliest stage of grammatical development, the grammars of English-speaking children contain lexical categories only. Leonard (1995) notes that English-speaking children are slow to identify the specific exemplars of functional categories, especially those associated with inflections. This lends support to the conclusion that the construct state of nouns belonging to functional categories is difficult to acquire or produce, compared to the free state forms belonging to lexical categories.

The second factor concerns the absence of semantic saliency. The change taking place in the noun from the free to the construct state has no conceptual correlate in the real world like the plural form, for instance. In the latter, the difference between *aḥenjir* (boy) in the singular and *iḥenjiren* (boys) in the plural is represented in terms of 'one person' versus 'more than one person'. This representation helps the learner to hypothesize the difference between the singular form and the plural one. In contrast, the difference between the free state and the construct state is abstract, and purely grammatical. Whether it is *aḥenjir* (boy) or *uḥenjir* (boy), the reference in reality is the same. It is the grammatical context of the noun that favours one form over the other. The absence of semantic saliency requires more time from the part of children, before realising and acquiring the construct form.

The third factor is the context of appearance of the noun. A noun in the free state occurs alone (not in a sentence) as well as within a sentence, whereas nouns in the construct form do not occur alone, but always within a stream of speech. The fact that the noun in the free state occurs alone, as a single element, makes the noun much easier to be acquired as such. Besides, nouns in the free state can occur at the beginning of a sentence. Nouns in the construct state do not enjoy this sentence-initial position, and thus the construct state marker prefixes neither.

The last factor is the place of transformation. The construct inflection takes place at the level of the prefix. In the previous task of plural formation (Chapter 5), the children experienced problems with the acquisition of the plural prefix as opposed to the plural suffix. The children kept the initial of the noun unchanged, while they focussed on the suffix. The same happened in the present task of case marking, by using the free state, and bringing no change to the initial of the stem. These outcomes reinforce the assumption that prefix inflections are more difficult to realise and acquire than suffix inflections.

6.2 Grade 8 children

6.2.1 Task description and data collection procedure

The case marking task for grade 8 children examines the use of the construct state in two contexts, i.e. when the noun appears after a preposition, and when it appears as a post-verbal subject (VS). The task comprises 26 nouns in total, of which 19 change their state from free to construct, and 7 do not. These last nouns were used for mere distraction purposes, in order to deviate the attention of the children from the main goal of the task. They are not included in the analysis. In total, there are 12 masculine nouns, 7 nouns occurring after prepositions, and 5 nouns as subjects occurring after verbs. There are 7 feminine nouns, 4 occurring after prepositions and 3 after verbs. Table 6.6 gives an overview of the distribution of the categories in the task, in terms of context of appearance and gender of the nouns.

Table 6. 6: Composition of the case marking task for grade 8 children

Context	Masculine		Feminine	
After	Free state	Construct state	Free state	Construct state
Preposition	a-stem	u-stem	t-a-stem	t-0-stem
		we-stem		t-e-stem
		wa-stem		
	0-stem	u-stem	t-i-stem	t-0-stem
Verb (VS)	i-stem	y-i-stem	t-i-stem	t-0-stem
	a-stem	u-stem		
		we-stem		

An exhaustive description of the nouns in the free and construct state is given below, based on their gender and context of appearance. Table 6.7 presents masculine nouns after prepositions, Table 6.8 masculine nouns after verbs, Table 6.9 feminine nouns after prepositions, and Table 6.10 feminine nouns after verbs.

Table 6.7: Masculine nouns after prepositions in the case marking task for grade 8 children

Case	Free state	Construct state	Free state	Construct state	Gloss
1	a-stem	u-stem	1 a-ḥenjir	u-ḥenjir	boy
			2 a-meddukel	u-meddukel	friend
2	0-stem	u-stem	3 mucc	u-mucc	cat
			4 fud	u-fud	knee
			5 yis	u-yis	horse
3	a-stem	we-stem	6 a-qzin	w-eqzin	dog
			7 a-ryaz	w-eryaz	man
4	a-stem	wa-stem	8 a-man	w-aman	water

There are 4 cases of nouns, based on the transformations they undergo in the construct state. 5 nouns have *a-* as stem initial in the free state. These are nouns of cases 1, 3, and 4. Nouns of case 1 have the vowel *a-* in the free state and take *u-* in the construct state. Nouns of case 2 begin with a consonant in the free state, and take the prefix *u-*

in the construct state. Nouns of cases 3 and 4 take *w-* as stem initial in the construct state.

Table 6.8: Masculine nouns after verbs in the case marking task for grade 8 children

Case	Free state	Construct state	Free state	Construct state	Gloss
1	i-stem	y-stem	9 i-ryazen	y-i/a-ryazen	man
			10 i-ryazen	y-i/aryazen	man
2	a-stem	u-stem	11 a-nẓar	u-nẓar	rain
3	a-stem	we-stem	12 a-γrum	we-γrum	bread

Masculine nouns after verbs include 4 items. They have a vowel as stem initial in the free state, i.e. *i-* for case 5, and *a-* for cases 6 and 7. They undergo 3 different changes in the construct state, i.e. *y-stem* as in *yi-ryazen* (men), *u-stem* as in *unẓar* (rain), and *we-stem* as in *we-γrum* (bread).

Table 6.9: Feminine nouns after prepositions in the case marking task for grade 8 children

Case	Free state	Construct state	Free state	Construct state	Gloss
1	t-a-stem-t	t-0-stem-t	13 t-a-henjirt	t-0-ḥenjirt	girl
			14 t-a-ziyyat	t-0-ziyat	bottle
2	t-i-stem-t	t-0-stem	15 t-i-fednin	t-0-fednin	toe

Feminine nouns after prepositions in Table 6.9 submit to one change, i.e. the deletion of the first vowel of the stem in the construct state. Case 8 includes 2 singular nouns, having *a-* in initial position, while the item of case 9 is a plural noun, having *i-* as stem initial. All nouns take a zero-prefix in the construct state.

Table 6.10: Feminine nouns after verbs in the case marking task for grade 8 children

Case	Free state	Construct state	Free state	Construct state	Gloss
1	t-i-stem	t-0-stem-t	t-i-mellalin	t-0-mellalin	eggs
			t-i-ḥenjirin	t-0-ḥenjirin	girls
			t-i-funasin	t-0-funasin	cows

Feminine nouns after verbs make the subject of case 9, including 3 nouns in the plural form. They have *-i-* as prefix in the free state, as in *t-i-mellalin*, *t-i-ḥenjirin*, and *t-i-funasin*. In the construct state, *-i-* is replaced by a zero prefix as *t-0-stem*, resulting in *t-mellalin*, *t-ḥenjirin*, and *t-funasin*.

The task of case marking for grade 1 children was conducted as a productive one with a picture book. Two procedures were followed. The first one relates to nouns occurring after prepositions. The procedure is the same as the one followed with grade 1 children (see section 6.1.1). The second one concerns nouns after verbs. At this respect, the child hears the whole sentence in SV order, like *tifunasin ttettent* (the cows are grazing) in which the noun *tifunasin* precedes the verb, and takes the free state. The child is asked to reverse the order of the sentence, by beginning with the verb *tettent*, resulting in *ttettent t-funasin*, with the noun in the construct form.

6.2.2 Data analysis

Both the scoring method and the analysis procedure are the same as in the case marking task for grade 1 children (see section 6.1.2). First, the total scores of the task are presented in Table 6.11, followed by the scores on each part of the task as categorised in terms of gender of the noun and context of appearance. The scores are given in percentages, first for the correct answers and second for the types of errors showing up. Errors were either in the free state form without changing the stem at all, or as mistaken construct forms by missing the right inflection.

Table 6.11: Scores on the case marking task for grade 8 children

Grade 8 children	N items	Mini	Maxi	Mean	%	S.D.
Core group	19	2	15	7	36	3.67
Reference group	19	14	19	17	89	1.27

The core group scored 36% correct, with a mean of 7 items correct out of a total of 19 items. The minimum score was 2 items correct, achieved by 2 children. The maximum score was 15 items correct, realized by one child. 50% of the children scored 6 items correct or lower, while 25% only scored above 9 items correct. The standard deviation shows the large spread in performance among the children of the core group. The reference group scored very high with a mean of 17 items correct out a total of 19. The minimum score was 14 items correct, obtained once. The maximum score of 19 items (100% correct) was scored three times. 75% of the children scored 18-19 items correct.

The difference between the core group and the reference group is obvious. The majority of the children of the core group failed in the task, while the majority of the children of the reference group succeeded in it.

Table 6.12: Scores (%) on masculine nouns after prepositions in the case marking task for grade 8 children

Case	Items		Correct	False	
	Free state	Construct state		Free state	Construct state
1	1 a-ḥenjir *(boy)*	u-ḥenjir	56	44	–
	2 a-meddukel *(friend)*	u-meddukel	34	66	–
2	3 mucc *(cat)*	u/w-mucc	30	70	–
	4 fud*(knee)*	u-fud	65	35	–
	5 yis *(horse)*	u-yis	56	44	–
3	6 a-qzin *(dog)*	w-eqzin/uqzin	46	54	8
	7 a-ryaz *(man)*	w-aryaz	48	44	8
4	8 aman *(water)*	w-aman	33	63	4

The scores on the items in Table 6.12 balanced between 30-65% correct. The scores varied between the items. The first noun of case 1 obtained 56% correct, while the second item got a lower score with 34%. Both items have the same morphological structure in the free state and submit to the same transformation in the construct state. The same remark holds true for the other items of the other cases. The reference group

scored 100% correct on all items. The only exception was item 5 which obtained 3 errors, due to the use of the free state form as *(y)is* instead of *u-yis*.

Nearly all errors of the core group are due to the use of the free state form, by bringing no change to the stem. 2 answers were given in the incorrect construct form, with respect to item 6, i.e. *y-aryaz* instead of *w-eryaz*. Actually, the given construct form is a correct one, but not in the context in which it occurs here.

Table 6.13: Scores (%) on masculine nouns after verbs in the case marking task for grade 8 children

Case	Items		Correct	False	
	Free state	Construct state		Free state	Construct state
1	9 a-ryazen *(men)*	y-a/iryazen	60	40	–
	10 a-ryazen *(men)*	y-a/iryazen	48	48	4
2	11 a-nẓar *(rain)*	u-nẓar	44	56	–
3	12 a-ɣrum *(bread)*	w-eɣrum	22	78	–

The scores on masculine nouns occurring after verbs are no better than the previous ones. The noun *i-ryazen/y-iryazen* of case 4 was used twice, in 2 different sentences, with different verbs. The noun got relatively different correct scores. Item 9 occurred with the verb *xdem* (work) as *xeddmen yiryazen* (men are working), while item 10 occurred with the verb *ṭṭes* (sleep) as *ṭṭsen yiryazen* (men are sleeping). This difference in the scores can be explained by the instability of few children in using the free and the construct state. Few answers were as *yaryazen*, pronounced as */ya:yazen/* with a lower vowel. These answers were judged as correct. The marker of the construct state in any way is the segment *y-* in initial position. As to case 2, 44% of the answers were correct. The last noun *aɣrum* (bread) resulted in the least correct scores with 22%. The noun itself is very frequently used, at least in the free state form.

As to the errors, all of them were in the free state form. One exception took place with respect to item 10. The noun generated one error, by using the construct state form *waryazen* instead of *ya/iryazen*.

Table 6.14: Scores (%) on feminine nouns after prepositions in the case marking task for grade 8 children

Case	Items		Correct	False	
	Free state	Construct state		Free state	Construct state
1	13 t-a-ḥenjirt *(girl)*	t-ḥenjirt	39	61	–
	14 t-a-ziyyat *(bottle)*	t-ziyyat	50	50	–
2	15 t-i-fedenin *(toe)*	t-fednin	30	70	–

Correct scores on feminine nouns were low in general. Half of the children scored correct on the noun *taziyyat* (bottle). The other feminine nouns resulted in lower correct answers. The last noun got once the answer *i i-ḍaren* (to the feet) instead of the given word *t-fednin* (toes). The other errors were in the free state form, by keeping the stem unchanged. The reference group in Morocco scored 100% correct on all nouns.

Table 6.15: Scores (%) on feminine nouns after verbs in the case marking task for grade 8 children

Case	Items		Correct	False	
	Free state	Construct state		Free state	Construct state
1	16 t-i-mellalin *(eggs)*	t-mellalin	–	100	–
	17 t-i-ḥenjirin *(girls)*	t-ḥenjirin	7	93	–
	18 t-i-funasin *(cows)*	t-funasin	7	93	–

The items of case 8 obtained the lowest scores among all items of the task. The first noun *timellalin* resulted in total failure with zero correct answers, while the other items got a few correct ones. Items 17 and 18 got 7% (2 answers) correct each. All answers afforded by the core group were in the free state form. In contrast, the reference group scored 100% correct on all items.

6.2.3 Conclusions and discussion

In concluding this chapter, Table 6.16 lists all items of the case marking task for grade 8 children, based on the scores obtained in descending order. Besides, each items is defined in terms of gender, number, context of occurrence as post-positional or post-verbal, initial of the stem in the free state, and transformation undergone in the construct form.

Table 6.16: Correct scores (%) on items of the case marking task for grade 8 children in the Netherlands

Ranking	Items	%	Gender	Number	Context	Free state	Construct state
1	yiryazen	60	masculine	plural	N+V	i-	y-
2	yis	58	masculine	singular	P+N	y-	u-
3	tziyyat	58	feminine	singular	N+V	t-a-	0-
4	yiryazen	58	masculine	plural	N+V	i-	y-
5	uḥenjir	58	masculine	singular	P+N	a-	u-
6	waman	52	masculine	plural	P+N	a-	w-
7	weryaz	52	masculine	singular	P+N	a-	we-
8	yi/arzazen	48	masculine	plural	N+V	i-	y-
9	unẓar	47	masculine	singular	N+V	a-	u-
10	tḥenjirt	47	feminine	singular	P+N	t-a-	0-
11	weqzin	47	masculine	singular	P+N	a-	we-
12	tfednin	35	feminine	plural	P+N	t-i-	0-
13	umeddukel	41	masculine	singular	P+N	a-	u-
14	ufud	35	masculine	singular	P+N	0-	u-
15	weɣrum	29	masculine	singular	N+V	a-	we-
16	umucc	29	masculine	singular	P+N	0-	u-
17	tḥenjirin	5	feminine	plural	N+V	t-i-	0-
18	tfunasin	5	feminine	plural	N+V	t-i-	0-
19	tmellalin	–	feminine	plural	N+V	t-i-	0-

The first obvious remark concerns the last three items (17-19). They are feminine plural nouns occurring after verbs, having *i-* in initial position of the stem in the free state, and take a zero vowel in the construct state.

The column of gender shows that masculine nouns scored better than feminine ones. All masculine nouns are found in the top 15. Four of the feminine nouns out of the total of 7 are localised at the bottom. This suggests that masculine nouns are less difficult to handle than feminine ones. The masculine nouns scored 40% correct, and the feminine nouns 27%. Following the same trend, the 2 masculine nouns *muc* (cat) and *fud* (knee) have a zero-stem initial as *0-stem*. These 2 nouns scored the lowest among all masculine nouns. The fact that the nouns begin with a consonant could be a reason therefore. The first conclusion to draw is that when the noun begins with a consonant, either as a feminine or otherwise, it has less chance to be transformed into the construct state.

Table 6.16 also shows that the last three items are feminine plurals. The masculine plurals score among the 6 best items. This suggests that it is gender rather than number which makes the difference in the scores. Besides, nouns occurring after prepositions scored 40% correct, while the ones occurring after verbs scored 27%. Derived from these outcomes, it is assumed that nouns after verbs are more difficult to process than the ones after prepositions. Table 6.17 summarises the results of the case marking task, based on the interaction between gender and context of occurrence of the nouns.

Table 6.17: Correct scores (%) on the case making task for grade 8 children in the Netherlands, based on interaction between gender and context of occurrence of the noun

Gender	Preposition+noun	Verb+noun
Masculine	44	43
Feminine	30	5

Masculine nouns scored better than feminine nouns. This is primarily due to the morphological structure of both categories. Masculine nouns have the structure *V-stem* (vowel-stem), and 2 nouns have *0-stem*. The first vowel subject to modification in the construct state is stem initial. Feminine nouns in counterpart have the feminine marker *t-* in initial position, followed by the vowel subject to change in the construct state as *t-V-stem*. The initial feminine marker *t-* may have formed an obstacle in changing the vowel. If so, the acquisition of the construct state with respect to feminine nouns takes place later than with respect to masculine ones.

Besides, the nature of the changes involved in masculine and feminine nouns could be another reason for the difference between these 2 categories. The transformations occurring with respect to masculine nouns involve the substitution of one vowel with another vowel or syllable as *u*, *y*, *wa*, *we* or by the insertion of a new segment like *u* as in *umuc* (cat). The transformation taking place in feminine nouns involves the deletion of a vowel (*t-V-stem/t-0-stem*), as in *t-a-ziyyat/t-ziyyat* (bottle). The difference between masculine and feminine nouns at this level is a difference at the acoustic level, i.e. the masculine change is prominent, or acoustically salient, while the feminine change is not. Leonard and Swanson (1999) found a difference in children's acquisition order between long and brief morphemes in favour of the first ones. When the change in the construct state consists of substituting one vowel with another vowel or a syllable as

in masculine nouns, the new sounds are acoustically longer and thus more conspicuous than when the change consists of deleting a vowel as in the case of feminine nouns.

Another difference was noticed within the group of nouns occurring after prepositions. Nouns following a preposition in the form of a vowel segment like *i* (to), or a preposition ending in with vowel like *di* (in), scored better than nouns following a preposition ending with a consonant like *akid* (with) or *qibal* (in front of). This was most obvious among masculine nouns. In fact, there seems to be an interaction between preposition type and initial of the noun. When the preposition has a vowel form or ends in a vowel, and is followed by a noun with a vowel in initial position, there happens to be a contact of two vowels, as in *i a-ḥenjir*, which is phonologically rejected. Thus there emerges the necessity to break up this vowel contact by means of a consonant as *i wḥenjir*. The new consonant in this case is in fact a transformation of the vowel of the noun *a-* into *w-*, resulting in the construct form of the noun.

Given this fact, it could also be further speculated that when a noun with a vowel in the initial of the stem occurs after prepositions such as *qibal* (in front of) or *akid* (with), ending with a consonant, the noun has less chance to be transformed in the construct state, due to lack of vowel contact. Otherwise around is also true, i.e. when a noun beginning with a consonant follows a preposition in a vowel form. This may also explain the difference in the scores between masculine and feminine nouns. Most of the masculine nouns begin with a vowel, while all feminine nouns begin with the gender marker consonant *t-*.

All in all, the majority of the core group children in the Netherlands showed no command of the construct state form. The errors committed were always in the free state. There were hardly any errors in the form of a false construct form. If we are to draw a path of the acquisition of the construct state, there are in general three stages to be distinguished. The first stage is the one in which the use of the construct state has not shown up yet. The child's productions are limited to the use of the free state. The second stage is when the child starts to produce more or less nouns in the construct form, by modifying the initial of the stem irrespective of whether this is done in the correct way or not. The third stage is when the child is capable of producing correct construct forms. With this in mind, grade 8 children of the core group in the Netherlands seem to be still in the initial stage of construct state acquisition. Moreover, there appears to be little chance for them to reach the final stage.

The difficulty to acquire the construct state phenomenon has the same origins as the ones named in the case of grade 1 children, i.e. the type of inflection, the absence of semantic saliency, the context of occurrence of free vs. construct state forms, and the place of transformation related to the prefix level as opposed to the suffix level. The most crucial element among these explanatory factors is the semantic saliency of this grammatical aspect. The difference between the free state and the construct state of a noun is purely grammatical, i.e. not conceptualised in the world around, as with plural formation for instance. In the latter case, the difference between singular and plural forms is visualized as a difference between 'one entity' and 'two or more ones'. In the

case of the construct form, this does not apply. There is nothing in the world which attracts the attention of the learner to the difference between the free state and the construct state. The only reinforcement learners get to acquire the construct state is input. When this input is not enough, children will keep using the free state.

CHAPTER 7

Gender and number distinction

This chapter deals with the acquisition of gender and number agreement between the subject and the verb. The task for grade 1 children focusses on one aspect, i.e. agreement between subject and verb in terms of gender and number, as expressed by means of inflectional morphemes. This is dealt with in part 7.1. The task for grade 8 children is concerned with both subject-verb agreement as well as non-agreement with respect to gender and number. In the latter, the verb takes a participial form irrespective of the gender and the number of the subject.

7.1 Grade 1 children

7.1.1 Task description and data collection procedure

The gender-number distinction task for grade 1 children consists of 15 verbs. 5 verbs are marked for the masculine form, with 2 verbs in the singular and 3 ones in the plural, and 10 verbs are marked for the feminine form, with 4 verbs in the singular and 6 ones in the plural. All verbs are set in the third person form. Tables 7.1 and 7.2 give an overview of the utilized masculine and feminine forms, respectively.

Table 7.1: Masculine forms of the gender-number distinction task for grade 1 children

Number	Inflection	Items	Gloss
Singular	i-stem	1 i-ṭṭes	he is sleeping
		2 i-ssirid	he is washing
Plural	stem-(e)n	3 ttirar-en	they are playing
		4 sess-en	they are drinking
		5 ttru-n	they are crying

Five verbs are used with masculine agreement. Verbs in the singular form take the prefix *i-*, while verbs in the plural form take the suffix *-(e)n*. 4 verbs are transitive, and 1 verb is intransitive. All 4 verbs are in the imperfective or present tense. In fact, the intransitive verb *i-ṭṭes* (he is sleeping) denotes a state rather than an action.

It is thus considered a stative verb. This should be no problem for the children, since these types of verb forms cannot be distinguished from action verbs with respect to the inflections they both take.

Table 7.2: Feminine forms of the gender-number distinction task for grade 1 children

Number	Inflection	Items	Gloss
Singular	t-stem	6 t-ggur	she is walking
		7 t-qqar	she is reading
		8 t-ttazzel	she is running
	(t)-stem	9 (t-)ḍeḥḥec	she is laughing
Plural	stem-(e)n-t	10 ttett-en-t	they are eating
		11 ssawal-en-t	they are talking
		12 sɣuyyu-n-t	they are shouting
		13 qqar-en-t	they are reading
		14 kker-en-t	they got up
		15 uḍa-n-t	they fell

Ten verbs are used with feminine agreement, taking the prefix *t-* in the singular form, and the suffix *-n-t* in the plural. This last inflection is composed of a double morpheme, i.e. *-n* as a plural marker and *-t* as a feminine marker. 4 verbs are used in this category, all of them in the present tense. The form *t-ḍeḥḥec* (she is laughing) takes, normally speaking, the prefix *t-* as a gender marker, but this prefix is assimilated to the voiced *ḍ* which belongs to the stem of the verb. As such the verb is pronounced as *ḍḍeḥḥec* (she is laughing). Another case of assimilation appears in the verb *t-ttazzel* (she is running). The feminine marker *t-* is assimilated to the markers of the imperfective *tt-*, prefixed to the verb. The form in question is then pronounced as *ttazzel*.

The task was conducted as a receptive task with a picture book. The pictures are arranged in a set of 3 pictures per tested verb. Each set of pictures shows some characters performing the same action. Yet, the characters differ in their gender and/or number. As an illustration, for the form *t-eggur* (she is walking), a set of 3 pictures is presented to the child, 1 picture shows a boy walking, another one shows a girl walking, and the last picture shows 2 girls walking. After having heard the stimulus verb *t-eggur* (she is walking), the child had to point to the corresponding picture, showing a girl walking. The order of the pictures was randomised. All pictures were on the same page.

7.1.2 Data analysis

The answers given were grouped into 4 categories, i.e. correct answers, where both number and gender were observed, wrong answers at the level of number, wrong answers at the level of gender, and wrong answers at the level of both gender and number. For the verb stated above as *t-eggur* (she is walking), the correct answer is the picture with a girl walking. If the chosen picture is the one with the boy walking, there is an error at the gender level. When the child chooses the picture with 2 boys walking, there is an error at both gender and number levels. Zero-answers were considered as missing values and were not included in the analysis. There were in any way seldom missing values.

Table 7.3 shows the overall scores of both the core group in the Netherlands and the reference group in Morocco, with respect to the total task. Afterwards, the scores on each sub-part of the gender-number task are dealt with separately; masculine inflections in Table 7.4, and feminine inflections in Table 7.5. Because the reference group in Morocco reached (nearly) top scores on all forms of the task, their correct scores will not be presented in Tables 7.4 and 7.5, but they will be commented upon when necessary.

Table 7.3: Scores (%) on the gender-number distinction task for grade 1 children

Grade 1 children	N items	Mini	Maxi	Mean	%	S.D.
Core group	15	2	10	6	42	1.96
Reference group	15	11	15	13	87	1.08

The scores of the core group, with a mean of 6 correct answers (out of 15), were much lower than the achievements of the reference group which realized a mean of 13 correct answers. The minimum and maximum scores of the core group children showed a large discrepancy, with 2 answers correct as the minimum score obtained by 1 child, and 10 answers correct as the maximum score obtained by 3 children. 50% of the scores were between 6 and 8 answers correct. The scores showed a normal distribution, in that the mean, the mode, and the median had 1 common point, i.e. the score 6. The standard deviation from the mean was close to 2 items. The scores of the reference group in Morocco were situated between 11 answers correct, realized by 2 children, and the maximum score of 15 answers correct, obtained by 1 child. 70% of the children scored 13 answers correct or higher. The standard deviation was 1.08, evoking the homogeneity of the group.

Table 7.4: Scores (%) on masculine inflections of the gender-number distinction task for grade 1 children

Number	Inflection	Items	Gloss	Correct
Singular	i-stem	1 i-ṭṭes	he is sleeping	45
		2 i-ssirid	he is washing	42
Plural	stem-(e)n	3 ttirar-en	they are playing	32
		4 sess-en	they are drinking	61
		5 ttru-n	they are crying	42

The scores on 2 verbs in the singular form were relatively lower than the average (50%), with 45% correct for the first item and 42% correct for the second one. The children of the reference group in Morocco scored correct on both items, with the exception of three children.

Errors of the core group in the Netherlands were due to gender, by pointing to the picture with the opposite gender than the one evoked by the verb. Gender errors made up 19% for the first item, and 39% for the second one. Errors due to number made up

36% for the first item, and 19% for the second item. Errors of the reference group were twice related to gender, and once to number.

As to the plural masculine category, the scores of the core group varied between 32% correct for item 3, 61% correct for item 4, and 42% correct for the fifth item. For the reference group in Morocco, the correct scores were between 80% and 95%. The errors of the core group were primarily at the level of gender and/or number for all 3 plural items. For the first item *tt-irar-en* (they-masc. are playing), 45% of the answers resulted in errors at the gender level, by indicating the picture with 2 girls playing. The second item *sess-en* (they-masc. are drinking) and the third one *ttru-n* (they-masc. are crying) resulted in 26% and 45% of the answers with errors at both the gender and number level, respectively, by indicating the picture with 1 girl performing the actions described by the verbs. The first and the last plural verbs begin with *tt-* prefix for present tense, which sounds much like the feminine marker prefix *t-*. It might be that the children took the inflection as one of feminine gender. Errors at the level of number only were much less, with 23% for the third item, and 13% for the fourth and the last items. This means that the children indicated the picture with the right gender, but in the singular form instead of the plural one. Errors of the reference group were very scarce, with 1 error at the level of gender, and 4 errors at the level of number.

Table 7.5: Scores (%) on feminine inflections of the gender-number distinction task for grade 1 children

Number	Inflection	Items	Gloss	Correct
Singular	t-stem	6 t-eggur	she is walking	42
		7 t-eqqar	she is reading	29
		8 tt-azzel	she is running	58
	(t)-stem	9 (t)-ḍeḥḥec	she is laughing	36
Plural	stem-(e)n-t	10 ttett-en-t	they are eating	35
		11 ssawal-ent	they are talking	42
		12 sɣuyyu-n-t	they are shouting	65
		13 qqar-en-t	they are reading	36
		14 kkar-en-t	they got up	42
		15 uḍa-n-t	they fell	32

The correct answers of the core group were low for the 4 singular items. The highest correct score was obtained by the third item in Table 7.5, i.e. *tt-azzel* (she is running) with 58%, while the lowest correct score was obtained by the second item *t-eqqar* (she is reading) with 29%. The reference group showed no difficulty with this sub-task.

The errors of the core group were more at the level of number, with 36% for the item *te-ggur* (she is walking), 52% for *t-eqqar* (she is reading), and 32% for the verb *t-ḍeḥḥec* (she is laughing). Errors at the level of gender on these same forms were 23%, 19%, and 32%, respectively. Errors of the reference group in Morocco were limited to 3 occurrences, all of them at the level of number.

The scores of the core group on the feminine plural forms do not differ much from the ones on the singular forms. The item *ʏuyyu-nt* (they are shouting) obtained the highest score with 65%. Most of the errors were at the level of gender as with the verbs *qqar-ent* (they-fem. are reading) with 32% of the answers, *kkar-ent* (they-fem. are getting up) with 42%, and *uḍan-nt* (they-fem. felt) with 45%. Errors at the level of gender and number made up 42% for the verb *ttett-ent* (they-fem. are eating) and the verb *ssawal-ent* (they-are talking), and 22% for the verb *ʏuyyu-nt* (they-fem. are shouting). Errors at the level of number varied between 32% and 12%.

The reference group scored higher on all items, reaching the top with 100% correct for the item *qqar-ent* (they-fem. are reading). Errors varied between 1 verb and another. The verb *kkar-ent* (they-fem. got up) was the only verb to evoke errors at the gender level with 35%. Errors at the level of number made up 25% for the verb *ttett-ent*, and 5% for the verb *kkar-ent*. Errors at both gender and number levels made up 10% for the verb *ssawal-ent*, and 15% for the verb *ʏuyyu-nt*.

7.1.3 Conclusions and discussion

The correct scores of the core group in the Netherlands on the items of the task, and the gender-number inflections related to them, are presented in Table 7.6. The scores are arranged in descending order. The table is split into a number of columns, entitled as gender (masculine/feminine), number (singular/plural), inflection, and position of the inflection (prefix/suffix), respectively. Each item in the table is defined in terms of these parameters.

Table 7.6: Correct scores (%) on items of the gender-number distinction task for grade 1 children in the Netherlands

Ranked items		%	Gender	Number	Inflection	Position
1	ʏuyyu-nt	65	feminine	plural	-en-t	suffix
2	sess-en	61	masculine	plural	-en	suffix
3	t-ttazzel	58	feminine	singular	t-	prefix
4	i-ṭṭes	45	masculine	singular	i-	prefix
5	ttru-n	42	masculine	plural	-n	suffix
6	ssawal-ent	42	feminine	plural	-en-t	suffix
7	i-ssirid	42	masculine	singular	i-	prefix
8	t-eggur	42	feminine	singular	te-	prefix
9	kkar-nt	42	feminine	plural	-en-t	suffix
10	qqar-nt	35	feminine	plural	-en-t	suffix
11	ḍeḥḥec	35	feminine	singular	0-	prefix
12	ttett-ent	35	feminine	plural	-en-t	suffix
13	uḍa-n	32	masculine	plural	-n	suffix
14	ttirar-en	32	masculine	plural	-en	suffix
15	t-eqqar	29	feminine	singular	te-	prefix

By analysing the first 4 items, it appears that the highest scoring item is *ʏuyyu-nt* (they-fem. are shouting), a plural feminine taking the suffix *-nt*, followed in second

position by the item *sess-n* (they-masc. are drinking) in the plural masculine form, taking the suffix *-n*. In third position comes the item *tt-azzel* (she is running), a singular feminine form taking the prefix *tt-*. The fourth item is *i-ṭṭes* (he is sleeping), having a masculine singular form taking the vowel prefix *i-*. These items belong to a variety of categories included in the task, i.e. masculine and feminine, in singular and plural forms, taking suffixes and prefixes. The same holds true for the rest of the items in Table 7.6. This leads to the conclusion that there is no clear trend in the scores of the children, i.e. it is difficult to state which gender form, number form or others form scored the best. Table 7.7 goes further in the analysis by looking at the global scores, based on the interaction between gender and number.

Figure 7.7: Scores (%) on the gender-number distinction task for grade 1 children, based on the interaction between gender and number

Gender	Singular	Plural
Masculine	35	45
Feminine	41	42

At first sight, there appear marginal differences between the scores of the different interactions. The masculine plural category showed a slight advantage over the other categories, by obtaining 45% correct answers. Verbs with masculine singular inflections scored the lowest with 35% correct. Verbs with feminine inflections scored 41% correct for the singular forms, and 42% for the plural forms.

To recapitulate, the core group scored much better on the gender-number distinction task than on the previous tasks. The overall correct score was 42%. The reference group realized top scores on nearly all items.

When looking at the errors of the core group, there appears to be a slight difference in the type of errors between the verbs with singular inflections and the ones with plural inflections. As to the singular forms, the errors were alternating between 2 types. First at the level of number, by indicating the plural form instead of the correct singular one. The differences between the plural and the singular forms are not comparable, i.e. the singular forms are prefixed, while the plural ones are suffixed, both of them using different morphological inflections. It is difficult to think of a strategy that the children have followed to indicate the plural form instead of the singular one. Still, the same phenomenon has been noticed in other languages. It is assumed that children are conceptually aware of and sensitive to number distinction from a very young age. However, they seem unable to use plural morphology on verbs in contexts in which this is called for. Children happened to utter sentences in singular forms, while pointing at 2 or more (plastic) animals which tip over simultaneously (Grinstead, 2000). The second type of errors concerns gender, by indicating the masculine instead of the feminine form or otherwise. The difference between male and female forms is

marked by the prefix *i-* for masculine and *t-* for feminine. This mixture of errors of all types evokes non-stability in the answer patterns of the children.

As to the plural verbs, more errors were committed on gender rather than number, mainly in the masculine forms with a *tt-* prefix of the present continuous, as in *tt-irar-n* (they-masc. are playing) and *tt-ru-n* (they-masc. are crying). The children considered them as having feminine subjects. The one explanation at this respect is that the children, who scored wrong on such items, thought that the initial *tt-* was a marker of gender.

Errors with respect to feminine plurals were caused by indicating the masculine form. This confusion can be attributed to 2 factors. The first factor may be phonological. Because the feminine suffix in the plural *-t* comes immediately after the number marker *-n-*, it is less audible than *n*, and therefore difficult to perceive. If so, the children might perceive feminine plural forms such as *ggur-en-t* (they -fem- are walking) as *ggur-en*, and miss the gender marker *-t*. The second factor might have to do with the fact that the masculine form is the default form, and therefore acquired first (Bartning, 2000).When children do not know the right gender, they are more inclined to point to the default gender.

7.2 Grade 8 children

7.2.1 Task description and data collection procedure

The gender-number distinction task for grade 8 children is composed of 2 parts, i.e. 1 part dealing with subject-verb agreement with respect to gender and number, and the other one dealing with subject-verb non-agreement. In the last case, the verb obtains the participial form, and thus takes the prefix *i-* and the suffix *-n*, regardless of gender and number of the subject.

For the first part dealing with gender-number agreement, 14 conditions have been selected, with 5 verbs to be put in the masculine form, and 9 ones in the feminine form. The non-agreement part is also made up of 14 conditions, in which all verbs take the participial form. The verbs in this task are set in the third person form. Tables 7.8 and 7.9 give an overview of the chosen masculine and feminine forms, respectively.

Table 7.8: With-agreement masculine forms of the gender-number distinction task for grade 8 children

Number	Inflection	Items	Gloss
Singular	i-stem	1 i-ṭṭes	he slept (he is sleeping)
		2 i-ssirid	she washed
Plural	stem-(e)n	3 ttirar-en	they are playing
		4 sess-en	they are drinking
		5 ttru-n	they are crying

The verbs in this first part are used with masculine subjects. 2 of them are in the singular form, taking the prefix *i-* as in *i-ṭṭes* (he is sleeping/slept) and *i-ssird* (he washed), and 3 verbs are in the plural form, taking the suffix *-n* as in *sess-n* (they-masc. are drinking), *ttru-n* (they-masc. are crying), and *ḍeḥḥc-en* (they-masc. are laughing).

Table 7.9: With-agreement feminine forms of the gender-number distinction task for grade 8 children

Number	Inflection	Items	Gloss
Singular	t-stem	6 t-eggur	she is walking
		7 t-eqqar	she is reading
	(t)-stem	8 (t)-ḍḍeḥḥec	she is laughing
Plural	stem-(e)n-t	9 ttette-n-t	they are eating
		10 ssawal-en-t	they are talking
		11 sɣuyyu-n-t	they are shouting
		12 qqar-en-t	they are reading
		13 kkar-en-t	they got up
		14 wḍa-n-t	they fell

There are 9 verbs used with feminine subjects. 3 verbs of this category are in the singular form, taking the third person prefix *t-*, as in *t-eggur* (she walks). The verb *ḍḥec* (laugh) is an exception to this rule, because the gender marker prefix *t-* assimilates with *ḍ* of the stem, resulting phonologically in *ḍḍeḥḥec* (she is laughing). There are 6 verbs used in the feminine plural form, taking the double suffix *-n-t*, as in *ttett-ent* (they-fem. are eating).

Table 7.10: Non-agreement forms of the gender-number distinction task for grade 8 children

Subject	Number	Inflection	Items	Gloss
Masculine	singular	(i)-stem-(e)n	1 i-kkar-en	getting up
			2 i-ssawal-en	speaking
			3 i-wḍa-en	falling
			4 i-ttazel-en	running
			5 i-ssirid-en	washing
			6 i-ttru-en	crying
			7 i-ṭṭs-en	sleeping
	plural		8 i-sess-en	drinking
Feminine	singular		9 i-qar-en	reading
			10 i-ttirar-en	playing
			11 i-ttett-en	eating
	plural		12 i-sɣuyyu-en	shouting
			13 i-neddh-en	riding
			14 i-ḍeḥḥc-en	playing

There are 14 verbs used in the non-agreement condition, i.e. 6 verbs with singular masculine subjects, 1 verb with a plural masculine subject, 2 verbs with feminine

singular subjects, and 3 verbs with feminine plural subjects. The verbs take the 1 participle form *i*-stem-*en*, irrespective of the gender and/or number of the verb.

The verbs appear in complex sentences with a subject, followed by the relative pronoun *i(g)* (who/that), as in *Ali ig i-qqar-en* (Ali-who is reading). This variation in subject forms is meant to detect the reactions of the children to the subject-verb relation in this non-agreement condition.

The gender-number distinction task for grade 8 children has been conducted as a productive one, with a picture book. 2 strategies were followed, differing between the 2 parts of with-agreement and non-agreement. For the first part, the child saw a picture showing an action. He heard afterwards the subject which s/he should use with the verb describing the action on the picture. As an illustration, the child was shown a picture with a girl walking, and then heard the stimulus *taḥenjirt* (the girl). The child was expected to finalize the sentence by using the verb describing the action on the picture, as *taḥenjirt t-eggur* (the girl is walking). The subject is feminine singular, and thus the verb takes the corresponding inflection *t-* as a prefix.

For the non-agreement part, the child got to see 2 pictures on 1 page. 1 picture on the top right position of the page shows a person performing an action. A larger picture on the middle of the page shows a person(s) of the opposite gender than the first picture, performing a different action. As an illustration, the small picture on the top right position of the page shows a boy running, while the larger picture on the middle of the page shows a girl eating. This last picture is the focus of the task. As a stimulus, the instructor says *maci d aḥenjir, d taḥenjirt ig* ... (it is not the boy, but the girl who ...), and the child has to finalize the sentence using the verb *ecc* (eat). S/he is required first to repeat *d taḥenjirt ig*, or at least *i(g)*, which results in *d taḥenjirt ig i-ttett-en* (the girl who is eating). The 2 categories of with-agreement and non-agreement are randomly mixed in the task.

7.2.2 Data analysis

A correct answer is one which bears the correct morphological inflections. A number of non-relevant errors were disregarded, and not counted as errors as long as the inflections were correct, such as errors at the level of the stem of the verb as *i-sew* instead of *i-sses* (he is drinking), errors at the level of non-assimilation such as *t-ḍeḥḥec* (she is laughing) instead of *ḍḍeḥḥec*, or the use of another verb such as *tteɛyarn* (they are playing) instead of the expected *ttirar-n*.

Categorization of the answers followed the same system as with grade 1 children (see 7.1.2). For the non-agreement part, answers were categorised as correct ones when the right participle inflections were used, as false answers due to recourse to the agreement strategy, such as *aryaz ig ittett* (the man who is eating), with gender and number agreement, instead of *aryaz ig ittett*, and as other types of false answers.

The results will be presented in terms of overall scores, followed by the achievements of the children in the 2 sub-parts of with-agreement and non-agreement. Categories within each of these parts are presented further, first with the part of with-agreement, including verbs taking masculine inflections and verbs taking feminine inflections, and second with the part of non-agreement. In the same way as with grade 1 children, tables will contain only the correct scores of the core group in the Netherlands.

Table 7.11: Correct scores (%) on the gender-number distinction task for grade 8 children

Grade 8 children	N items	Min	Max	Mean	%	S.D.
Core group	28	8	26	18	64	5.94
Reference group	28	21	28	27	96	1.66

The core group had relatively high scores. On an individual basis, the scores were widely spread within the group. This can be derived from the range between the realized minimum score (8 items correct) and the maximum one (26 items correct). The spread of the scores from the mean was large too, with a standard deviation of 5.94. The median was 18 items correct. The mode was 22 items correct, scored by 4 children.

The reference group reached almost the maximum score with a mean of 27 items correct (out of 28). The range between the realized minimum and maximum scores was 7, with a standard deviation of 1.66. 17 children obtained the maximum score of 28. The other 3 children scored 21, 25, and 27 items correct.

Table 7.12: Correct scores (%) on with-agreement and non-agreement forms of the gender-number distinction task for grade 8 children

	Core group (N=27)			Reference group (N=27)		
Gender-number form	%	Mean	S.D.	%	Mean	S.D.
With agreement (N=14)	71	10	2.40	99	13	0.22
Without agreement (N=14)	50	7	4.43	99	13	1.67

The core group scored better on the part of with-agreement than on the part of non-agreement. For the first part, 71% of the answers were correct against 50% for the second part. The range for both categories was large, with 7 and 13 on the 2 parts, respectively. 50% of the scores were above 11 items correct (out of 14) for the category of items with agreement, and above 7 items correct (out of 14) for the ones without agreement. The standard deviation among verbs without agreement was larger (4.43). The reference group in Morocco got 99% correct on both parts, with a mean of 13 items correct (out of 14).

Table 7.13: Scores (%) on with-agreement masculine form of the gender-number distinction task for grade 8 children in the Netherlands

Number	Inflection	Items	Gloss	Correct
Singular	i-stem	1 i-ṭṭes	he slept	100
		2 i-ssirid	she washed	100
Plural	stem-(e)n	3 ttirar-n	they are playing	96
		4 sess-en	they are drinking	92
		5 ttru-n	they are crying	100

To start with, the reference group in Morocco scored 100% correct on all items. The core group in the Netherlands reached the maximum score on 3 items (Table 7.13). Item 3 obtained 96% correct. The 1 error was *i-ttirar*, due to the use of the masculine singular prefix *i-* instead of the plural suffix *-n*, leading to an error at the number level. Item 4 scored 92% correct. Yet, 55% of the answers only were correct as expected. The other answers had many forms, i.e. 18% as *t-sw-en*, 15% as *te-s-en*, and 4% as *t-su-n*. All of these answers bear the prefix *t-* and the plural marker suffix *-n*. It is to wonder whether or not the inflection *t-*, prefixed to the stem, has a feminine function, i.e. whether the children thought to use the feminine plural form, as it is used in the singular forms. This could be caused by the stimulus subject. The stimulus subject presented was formulated as *Farid d Aicha* ... (Farid and Aicha ...), where the first name is a male name, and the second name is a female one. It looks as if the female name made the children think about the feminine form instead of the masculine one. Another interpretation is that the prefix *t-* belongs to the imperfective, which in fact takes the initial position. The use of the progressive form could be dictated by the picture, showing an action taking place. Given the high correct scores on the other items, the first interpretation was favoured, and thus counted as correct. Errors in relation to items 4 are 2. 1 child gave the answer *qa-nt t-sun* (they-fem. are drinking) by using the auxiliary *qa-nt* (are) in the plural feminine form, followed by the verb, prefixed by *t-* and suffixed by *-n*. The other child gave the answer *sess-nt* (they-fem. are drinking), by using the feminine suffix *-t*, resulting in an error at the gender level.

Table 7.14: Scores (%) on with-agreement feminine form of the gender-number distinction task for grade 8 children in the Netherlands

Number	Inflection	Items	Gloss	Correct
Singular	t-stem	6 t-eggur	she is walking	100
		7 t-eqqar	she is reading	100
	(t)-stem	8 ḍḍeḥḥec	she is laughing	96
Plural	stem-(e)n-t	9 ttett-en-t	they are eating	63
		10 ssawal-en-t	they are talking	44
		11 sɣuyyu-n-t	they are shouting	41
		12 qqar-en-t	they are reading	48
		13 kkar-en-t	they got up	70
		14 wḍa-n-t	they fell	56

The children of the core group in the Netherlands scored 100% correct on feminine singular forms, with one exception. A couple of answers were as *te-deḥḥec* or *t-raḥḥec*, by prefixing with the gender marker *t-*, and pronouncing it without assimilation. These answers were considered as correct. The scores on the plural feminine category were lower than those on the singular feminine category. The scores varied between 70% correct as the highest, and 41% correct as the lowest. The reference group in Morocco scored 100% correct on all items, in both singular and plural forms.

Errors of the core group have many forms. The first one is due to missing the feminine marker *-t*, resulting in answers such as *ttett-n/ttecc-n* instead of *ttett-n-t* (they-fem. eating). The proportion of this type of errors varied between 37% for item 9, and 19% for items 11 and 12. The second form concerns prefixation with *t-*, resulting in answers such as *t-ssawal-en* (they are talking) with 22%, *t-sɣuyyu-n* (they are shouting) with 30%, *t-qqar-n/t-ɣar-n* (they are reading) with 22%, *t-kkar-n* (they are getting up) with 8%, and *t-uḍa-n* (they are falling down) with 4%. It is to wonder whether this inflection is meant as feminine gender marker, and whether the children missed the correct position at the end of the stem. This same strategy was encountered with the masculine category mentioned before. One is more inclined to think that the prefix *t-* was used as a gender marker. This could be reinforced by the fact the feminine index *-t* was missing in the suffix position. If so, the last erroneous answers are due to mis-affixation, by prefixing *t-* instead of suffixing it.

Other errors concern the prefixation of the stem with *t-*, while suffixing with *-n-t*, resulting in answers as *t-qqar-nt* (4%), *t-suɣuyyu-nt* (8%), and *t-uḍi-nt* (4%). Finally, there were some sporadic answers as *ssawal* without inflections, *i-t-sɣuyyu* with *i-t-* as prefixes, *i-qqar-n* with the prefix *i-* and the suffix *-n*, and *i-daḥḥac-nt*, by prefixing with the third person masculine singular marker *i-*, and suffixing with the plural feminine inflections *-n-t*.

Tables 7.15 and 7.16 show the scores of grade 8 children on the non-agreement part. Table 7.15 presents the results of conditions with masculine subjects, while Table 7.16 presents the scores of conditions with feminine subjects. Both tables present correct scores, i.e. when using the participle form, and false answers when given with agreement.

Table 7.15: Scores (%) on non-agreement forms with masculine subjects for grade 8 children in the Netherlands

Number	Inflections	Items	Gloss	Correct	False
Singular	i-stem-(e)n	1 i-kkar-en	getting up	50	50
		2 i-ssawal-en	speaking	61	35
		3 i-wḍ-an	falling	42	54
		4 i-ttazzl-en	running	62	38
		5 i-ssirid-en	washing	50	42
		6 i-ttru-n	crying	58	42
		7 i-ṭṭs-en	sleeping	50	50
Plural		8 i-sess-en	drinking	58	15

The correct scores in this category were more or less around the average of 50%. The highest score was reached on item 4 with 62% correct, the lowest one on item 3 with 42% correct. As to the reference group in Morocco, the correct scores balanced between 90-100% correct.

The errors of the core group were due to the application of the rule of agreement between the masculine subjects and verbs, by prefixing the masculine singular inflection *i-* to the stem as in *i-kkar/i-ttekkar* (he is getting up). In fact, this prefix *i-* could also be seen as one part of the answer in the participle form *i-stem-n*, and as missing the second part, which is the suffix *-n*. Yet, because the subject was third person singular, marked by the prefix *i-*, it is likely not to consider this *i-* as one of the participle, but rather as one of the third person singular.

Few errors were due to the prefixation of the inflection *t-* to the stem, either alone as in *t-ssiwer* with 4%, *t-weṭṭa* with 4%, or in combination with the suffix *-n* as in *t-ssirid-n* with 4%, or just *-n* alone as in *dduca-n* with 4%. The one verb with a plural subject (last item) obtained 58% correct answers. Mistaken answers were due to agreement, by suffixing with *-en* as in *sess-en* (they drink) with 15%, the prefixation of *t-* instead of *i-* as in *t-sess-en* with 19%, the use of the feminine plural form as *sess-nt* with 8%, and the imperative form as *sess* with 5%. The errors of the reference group in Morocco on this non-agreement part were 5 in total (25%), encountered with respect to the second, third, and sixth item, with a subject in the singular form.

Table 7.16: Scores (%) on non-agreement forms with feminine subjects for grade 8 children in the Netherlands

Number	Inflections	Items	Gloss	Correct
Singular	i-stem-(e)n	9 i-qqar-en	reading	60
		10 i-ttett-en	eating	61
		11 i-ttirar-en	playing	61
Plural		12 i-sɣuyyu-n	shouting	54
		13 i-neddh-en	riding	46
		14 i-ḍeḥḥc-en	laughing	55

The first 3 verbs, used with feminine singular subjects, scored around 60% correct. The other 3 verbs, used with feminine plural subjects, scored between 46-55% correct. The reference group in Morocco scored between 95-100% correct.

The errors encountered differed between subject-verb agreement and other types of errors. For verbs with a feminine singular subject, they were inflected accordingly, following the agreement rule, as *t-eqqar/t-ɣa* (she is reading) with 28%, *ttett/ttec* (she is eating) with 27%, and *ttirar/tteɛyar* (she is playing) with 8%. The other types of errors within this category were due to the use of the singular masculine inflection *-i* as *i-qqar* (he reads) with 8%, *i-ttett* (he eats) with 12%, and *i-ttirar* (he plays) with 12%. Besides, there was also recourse to the use of the prefix *t-* together with the suffix *-n* as in *t-qqar-n*, obtained once (4%). Errors caused by agreement between subject and

verb, in the feminine plural form, varied between 11-15%, as in *ʂyuyyu-nt* (they are shouting) with 15%, *neddh-nt* (they are riding) with 11%, and *ḍeḥḥc-ent* (they are laughing) with 12%.

The other types of errors were due to suffixation with *-n* as in *ḍeḥḥc-en* (they-masc. are laughing) with 26%, prefixation with *t-* and suffixation with *-n* as in *t-ʂyuyu-n* with 19% and *t-neddh-en* with 23%. Other sporadic errors were caused by prefixation with *t-* and suffixation with *-n-t* as in *t-ʂyuyyu-nt* (4%), prefixation with *i-t-* only as in *i-t-neddeh* (8%), or together with the suffix *-n-t* as in *i-t-neddh-nt* (4%), by suffixing with the plural index *n-* as in *ʂyuyyu-n* (4%)or *neddh-en* (4%), or by prefixing with the third person singular masculine marker *i-* as in *i-ʂyuyyu* (he is shouting) (4%) and *i-ḍeḥḥec* (he is laughing) (4%).

For the reference group in Morocco, 4 errors were committed with respect to 4 different items, all of them caused by setting agreement between subject and verb, in the form of *t-stem* for verbs with singular feminine subjects, and *stem-n-t* for verbs with plural feminine subjects.

7.2.3 Conclusions and discussion

Table 7.17 gives an overview of the scores of the core group on all items, both in the with-agreement and non-agreement parts. The achievements are listed in descending order. In addition to the scores, the table presents a description of the contents of each item in terms of gender, number, with or without agreement, type of inflection attributed to the verb, and position of the affix, respectively.

Table 7.17: Correct scores (%) on items of the gender-number distinction task for grade 8 children in the Netherlands

Ranked items		%	Gender	Number	Agreement	Inflection	Position
1	Mina t-qqar	100	feminine	singular	yes	t-	prefix
2	Aḥenjir i-ssirid	100	masculine	singular	yes	i-	prefix
3	Aicha t-ggur	100	feminine	singular	yes	t-	prefix
4	Aḥenjir i-ṭṭes	100	masculine	singular	yes	i-	prefix
5	Aicha t-ḍeḥḥec	96	feminine	singular	yes	t-	prefix
6	Iḥenjiren ttru-n	96	masculine	plural	yes	-n	suffix
7	Iḥenjiren ttirar-en	96	masculine	plural	yes	-n	suffix
8	Tiḥenjirin kkar-ent	70	feminine	plural	yes	-nt	suffix
9	Tiḥenjirin ttett-ent	63	feminine	plural	yes	-nt	suffix
10	D taḥenjirt ig i-ttett-en	62	feminine	singular	no	i--n	pre-suf
11	D aḥenjir ig i-ttazl-en	62	masculine	singular	no	i--n	pre-suf
12	D aḥenjir ig i-ssawal-en	62	masculine	singular	no	i--n	pre-suf
13	D taḥenjirt ig i-ttirar-n	62	feminine	singular	no	i--n	pre-suf
14	D tamʏart ig i-qqar-n	60	feminine	singular	no	i--n	pre-suf
15	D aḥenjir ig i-ttru-n	58	masculine	singular	no	i--n	pre-suf
16	D iḥenjiren ig i-sess-en	58	masculine	plural	no	i--n	pre-suf
17	Farid d Aicha sess-en	56	masculine	plural	yes	-n	suffix
18	D tiḥenjirin ig i-ḍeḥḥc-en	56	feminine	plural	no	i--n	pre-suf
19	Tiḥenjirin uḍa-nt	56	feminine	plural	yes	-nt	suffix

Ranked items		%	Gender	Number	Agreement	Inflection	Position
20	D timɣarin ig i-sɣuyyu-n	54	feminine	plural	no	i--n	pre-suf
21	D aḥenjir ig i-ssirid-en	50	masculine	singular	no	i--n	pre-suf
22	D aḥenjir ig i-kkar-en	50	masculine	singular	no	i--n	pre-suf
23	D aryaz ig i-ṭṭs-en	50	masculine	singular	no	i--n	pre-suf
24	Tiḥenjirin qqar-ent	48	feminine	plural	yes	-nt	suffix
25	D tiḥenjirin ig i-neddh-en	46	feminine	plural	no	i--n	pre-suf
26	Tiḥenjirin ssawal-ent	44	feminine	plural	yes	-nt	suffix
27	D aḥenjir ig i-uḍa-n	42	masculine	singular	no	i--n	pre-suf
28	Timɣarin sɣuyyu-nt	41	feminine	plural	yes	-nt	suffix

First of all, Table 7.17 shows that 4 singular forms with subject-verb agreement scored 100% correct, 2 in the masculine and 2 in the feminine mode. The other major remark concerns the fact that the top 9 scoring verbs appear in the with-agreement condition. Among items with agreement, singular forms scored better than plural forms on the one hand, and masculine plurals scored better than feminine plurals on the other hand. 2 of the 3 masculine plural forms scored 96% correct. This implies that most of the children of the core group have managed to command the gender marker for third person singular, at the level of the prefix *i-* for the masculine and *t-* for the feminine, as well as the gender marker for the masculine plural form *-n*. The plural feminine forms had the lowest scores.

Table 7.18 offers an overview of the performances of grade 8 children in the Netherlands, on with-agreement forms based on the interaction between number and gender.

Table 7.18: Scores (%) on the gender-number distinction task for grade 8 children, based on the interaction between gender and number

Number	Masculine	Feminine
Singular	100	97
Plural	83	36

The core group scored 100% and 97% correct on singular masculine and feminine forms, respectively. Agreement between subject and verb involves the prefixation of *i-* for masculine and *t-* for feminine items. The plural masculine form scored 83% correct. This involves the suffixation of *-n* to the stem. Problems of the core group showed up with plural feminine inflections, involving the complex suffix *-n-t*, and more specifically in relation to the gender morpheme *-t*. The number inflection *-n* did not appear to be a problem, and was most of the time inflected to the verb. The children missed the gender suffix *-t*. Yet, in many instances, the children happened to prefix *t-* to the stem. This inflected prefix could be interpreted either as one of third person feminine singular, or as one of imperfective tense. If the children happened to use the prefixed *t-* as the third person feminine plural marker, they have thus applied the same inflectional strategy of third person feminine singular with third person feminine plural.

The other errors were due to the absence of *-t*, resulting in forms like *stem-n*, identical to the plural masculine form. As such, the children used the masculine plural form as a default form, which they happened to apply also with items in the plural feminine form. Few errors were due to the double affixation of *t*, i.e. both at the prefix and suffix levels, as in *t-stem-nt*. 4 answers in total were in this form. It is unclear whether or not this double suffixation is a transitional stage in the acquisition of third person feminine plural morphology, between the prefixed form *t-stem* and the suffixed correct form *stem-nt*. The children may have realised the suffixation of *-t* as marker of feminine gender in the third person plural, but still hold on the use of the prefix *t-*. As such, this type of double affixation errors can be linked to processing problems with many different causes, and does not necessarily reflect agreement problems (Dewaele & Véronique, 2000). As to the part with the participle forms, the core group did not perform as good as in the previous part with agreement. About half of the children of the core group succeeded in affording the participle form of the verbs (*i*-stem-*en*). The ones who did not succeed in doing so happened to mark the verbs for agreement with their subjects.

On the whole, grade 8 children in the Netherlands showed a high performance on the part of with-agreement, approaching the performance of their peers in Morocco, if we ignore the one category of plural feminine inflections. Yet, their performance in the part of non-agreement was far below the achievements of grade 8 children in Morocco. About half of the children of the core group were not yet aware of the non-agreement relations in this category. The outcomes of the task on gender and number distinction show that the children master gender inflections at the prefix level, referring to their performance in third person singular forms, as well as at the suffix level, at least for the plural masculine form.

CHAPTER 8

Perfective formation

Chapter 8 reports on the outcomes of the perfective formation task for grade 1 and grade 8 children. The task for grade 1 children deals with the use of the perfective in the affirmative sentence form. The task for grade 8 children deals with the use of the perfective in both the affirmative as well as the negative forms. The task for grade 1 children is dealt with in part 8.1, and that for grade 8 children in part 8.2. All forms used in the perfective tasks indicate that the action referred to has already been completed.

8.1 Grade 1 children

8.1.1 Task description and data collection procedure

The perfective formation task for grade 1 children distinguishes between three verb categories, based on the affixation process. Category 1 includes verbs submitting to prefixation only, verbs submitting to simultaneous pre-suffixation, and verbs undergoing stem alteration. Category 2 contains verbs subject to suffixation only. Category 3 is made up of basic verbs, i.e. verbs which do not change form between the aorist (basic form) and the perfect.

The starting point in the determination of morphological change is the aorist form, i.e. the form of the verb in the aorist compared with the form of the verb in the perfective. For instance, the verb *a-ley* (to get on) in the aorist form becomes *u-ley* in the perfect form, undergoing one change at the initial level of the stem, by transforming *a-* into *u-*. The verbs tested were first set up in given contexts. They were presented to the children either in the present tense indicated by the prefix *t-*, taking place after the personal inflection or after the auxiliary of continuity *qa-*, or in the future tense marked by the auxiliary *a(d)* preceding the verb.

Below follows a presentation and description of each of the verb categories. The first category is split up in 3 types of verbs, as shown in the first column of Table 8.1, based on their affixation process. Verbs undergoing a change at the level of the prefix belong to one type, as opposed to the others. The affixation process is mentioned in the second column. The other 2 categories contain 1 type of verbs. Column 3 gives the form of the verb in the aorist, while column 4 presents the form of the verb as presented to the children, before having been requested to give the perfect form of it. The column with the perfective form exhibits the correct form of the verb as expected in the third person singular form, and the last column is devoted to the gloss. When

commenting on the changes the verbs undergo in the perfective form, descriptions are limited to the state of the verb in the third person singular form, as they were used in the task.

Table 8.1: Category 1 of the perfective formation task for grade 1 children

Type	Affixation	Aorist	Given tense	Perfective	Gloss
1	Prefixation	a-stem	future	u-stem	
		1 a-ley	ad y-aley	u-ley	get on
		a-stem	future	i-stem	
		2 a-weḍ	ad y-aweḍ	i-weḍ	arrive
		3 a-wey	ad y-awey	i-wey	bring
2	Pre-suffixation	a-stem	present continuous	u-stem-a	
		4 a-ri	tt-ari	u-r-a	write
3	Infixation	st-a-m	present continuous	st-u-m	
		5 z-a-ll	qat i-t-zalla	zz-u-ll	pray

The first category contains 3 types of verbs. The first one submits to prefix alteration, in which *a-* of the stem changes into *u-*, as in item 1 *a-ley/u-ley* (go up), or into *i-*, as in item 2 *a-weḍ/i-weḍ* (arrive). The second type includes the verb *a-r-i* (write) with a double transformation, i.e. at the prefix level by changing *a-* into *u-*, and at the suffix level by changing *-i* into *-a*. The perfective form is thus *u-r-a*. The last type includes stem alteration represented by item 5 *z-a-ll* (pray), becoming *z-u-ll* (prayed) by changing *-a-* inside the stem into *-u-*. The stimulus verbs were either in the future tense as verbs 1 and 2, marked by the auxiliary *ad*, or in the present continuous as in the last 2 verbs, marked by the auxiliary *qat*.

Table 8.2: Category 2 of the perfective formation task for grade 1 children

Type	Affixation	Aorist	Given tense	Perfective	Gloss
1	Suffixation	stem	present continuous	stem-a/i	
		6 dder	itedar	dr-a	get off
		7 ɣer	qat iqqar	ɣr-a/i	read
		stem	future	stem-a/i	
		8 ecc	ad tecc	cc-a/i	eat
		9 ney	ad iniy	ny-a	ride on
		10 seɣ	ad iseɣ	sɣ-a/i	buy
		11 uc	ad yuc	uc-a/i	give

The second category contains verbs submitting to transformations at the suffix level. The suffix *-a* is adjusted to the stem in the aorist, resulting in *stem-a*. This is certainly true for intransitive verbs as item 6 *dder* (get off), and item 8 *ny* (get on), which takes a prepositional phrase as complement. The other transitive verbs take either *-a* if the complement afterwards is a NP, or *-i* if the complement is a pronoun, as in *yeɣr-a lkitab* (he read the book) and *yeɣr-i-t* (he read it). The tense of the stimulus verbs was given in the present tense as in verb 6 marked by the morpheme *-te-*, in the present

continuous as in item 7 marked by the auxiliary *qat*, or in the future tense as in the rest of the items 8-11 preceded by the auxiliary *ad*.

Table 8.3: Category 3 of the perfective formation task for grade 1 children

Type	Affixation	Aorist	Given tense	Perfective	Gloss
1	No transformation	stem	present continuous	stem	
		12 ɛawen	i-tt-ɛawan	ɛawen	help
		13 kkes	i-tt-kkes	kkes	take off
		14 ɛdel	i-ɛeddel	ɛdel	repair
		15 ḥfer	i-ḥeffer	ḥfer	dig
		16 irḍ	i-tt-irḍ	irḍ	wear on
		17 ɛarn	it-ɛarn	ɛarn	push
		stem	future	stem	
		18 nḍu	ad inḍu	nḍu	spring

Verbs of this last category do not undergo any change when transformed from the aorist to the perfect form. The verbs keep the same stem in both forms. However, the change that takes place is one between the stimulus form, either in the present or future tense (the given form), and the perfective form required. In other words, when the stimulus verb is in the present tense as in item 12, marked by the morpheme *-t-*, the child has to omit this morpheme in order to get the perfective form. Verbs given in the present continuous are composed of tense marker *-t-*, with the exception of item 15. The last verb, item 18, was given in the future form.

The task was conducted as a productive one with a picture book. The child sees 2 pictures on the same page, 1 on the left side of the page showing someone performing an action (present tense) or about to perform an action (future). The picture on the right side shows the action finished. As an illustration, the child sees a first picture with a person taking his meal (eating), and another picture with the same person sitting with an empty dish in front of him/her.

The task begins by attracting the attention of the child to the first picture, by pointing to it and saying *da aḥenir ittett* (here, the boy is eating) or *da aḥenjir iggur ad yeny x uyis* (here, the boy is going to ride on the horse). Afterwards, the instructor points to the second picture on the right, and says to the child *i da ṣafi* ... (and here s/he has already ...). The child is required to finish the sentence with the verb in the perfective. The task for grade 1 children in the Netherlands was scored on paper and recorded on audiotape. The task for the children in Morocco was scored on paper only.

8.1.2 Data analysis

Scoring the answers as correct or not is based solely on perfective markers. No consideration is taken of errors at the level of number, person or otherwise. The correct scores are the ones as expected, by using the same verb, or by using another

verb of the same category in the correct perfective. Errors were categorised as answers with a false perfective marker; answers with another tense such as the present or future; giving the perfective of a verb of category 3 without change, instead of a verb of category 1 or 2 with change; and answers in the form of *ṣafi* (that was) which is used in the stimulus sentence, and at the same time can be used as a lexical item by means of which an action is declared to be finished. Similarly, answers with *kemmel* (finished), *igga* (did), *tuɣa* (was), and *raḥ* (went) were not scored as correct, because these expressions are very frequent collocations. When the child repeated the stimulus verb he heard from the instructor, the answer was considered as a missing value. The same holds true for incomprehensible and zero responses.

The results on the perfective formation task for grade 1 children are presented in the following way. First, the general scores of grade 1 children in the Netherlands and Morocco are given in Table 8.4, followed by the scores obtained with respect to each verb category in Table 8.5., i.e. the ones submitting to prefixation, infixation (stem alteration), and/or suffixation. The scores on the verbs within each of the 3 categories are presented in Table 8.6 for category 1, Table 8.7 for category 2, and Table 8.8 for category 3.

Table 8.4: Scores of grade 1 children on the perfective formation task

Grade 1 children	N items	Mini	Maxi	Mean	%	S.D.
Core group	18	–	13	4	22	3.56
Reference group	18	15	18	17	94	0.98

The overall scores show the low results of the core group compared to the reference group. The general mean of the core group was 4 items correct, out of 18 items. The scores balance between zero and 13 items correct. The mode of the group was 1 item correct, scored by 9 children out of 31. 75% of the children scored below 7 items correct, i.e. 25% (11 children) scored 6 items or higher correct. The discrepancy within the group is large, given the standard deviation, and the range between the highest and the lowest obtained scores, which is 13.

The reference group in Morocco realized a mean of 17 items correct out of 18 items. 12 (out of 20) children achieved the top score of 18 items correct, 5 ones 17 items correct. The performances within the group were very close to each other, with a standard deviation of .98.

Table 8.5: Scores of grade 1 children on the different verb categories

Verb categories	N items	Grade 1 children	Mean	%	S.D.
1 With pre-suffix change	5	core group 1	0.48	10	0.81
		reference group 1	4.75	95	0.55
2 With suffix change	6	core group 1	2.19	37	1.70
		reference group 1	5.90	98	0.30
3 Without change	7	core group 1	1.54	22	1.78
		reference group 1	6.70	96	0.47

The first category, including the processes of prefixation, pre-suffixation and suffixation, appears to be the most difficult one, with a mean of less than 1 item correct. 21 children (out of 27) gave no correct answer on any of the verbs of this subcategory, 6 children obtained 1 item correct, and 2 children had 2 items correct. The reference group scored much better. 16 out of 20 children scored the maximum with 5 items correct, 3 children scored 4 items correct, and 1 child scored 3 items correct.

The second category scored better than the first one. Most of the children in the Netherlands scored 1 item correct, 25% of the children scored 3 items correct or higher. The reference group in Morocco scored 98% correct; 18 children in this group scored the maximum, while 2 children scored 5 items correct.

The core group children scored 22% correct on the third category. 14 children scored zero correct, while 1 child scored 6 items correct out of 7. 25% of the children scored 3 items correct or higher. The reference group scored 96% correct; 16 children scored the maximum, while 4 children scored 6 items correct out of 7.

The performances on the last category for the core group were low, with a mean of less than 2 items correct out of 7 items. 14 children obtained a zero score. Yet 1 child gave 6 correct answers out of 7. The reference group showed no difficulty with the task with 96% correct. 16 out of 20 children scored correct on all items, while the other 4 children got 1 error, and obtained 6 items correct.

Table 8.6: Scores (%) on category 1 of the perfective formation task for grade 1 children

Type	Affixation	Stem	Aorist	Perfective	Correct
1	Prefix	a-stem/i-stem	1 a-ley *(go up)*	u-ley	15
			2 a-weḍ *(arrive)*	i-wed	25
			3 a-wey *(bring)*	i-wey	17
2	Pre-suffix	st-a-m/st-u-m	4 a-r-i *(write)*	u-r-a	–
3	Stem	st-a-m/st-u-m	5 z-a-ll *(pray)*	z-u-ll	–

The achievements on the items were low, with zero scores on the items of types 2 and 3. The errors were of different types. The first most dominant errors were caused by answers as *ṣafi* (that's it) with 38%, *kemmel* (finished) with 24%, and *iraḥ* (he went) with 10%. These types of answers made up 78% of the errors. The second type of errors was due to the choice of the tense/aspect itself, by putting the verb in another form than the perfective, such as the present (4 times) as in *aqat deg ujenna* (he is above) for *aley*, *yeggar*, *yeyyar* and *yeggur* (walking) for *yiweḍ*, or the future (twice) as in *ad yerzem* (he will open) for *iweḍ*, and *ad yerni* (he will add more) for *iwey* (bring). The third type of errors was due to keeping the stem unchanged, such as *awi*, *awi-t*, and *awi dd* (bring) for item 3 of type 1, caused by not transforming the initial *a-* into *i-*, or as *t-ari-t* and *y-ari-t* for item 4, by not changing the initial *a-* into *u-*. They formed 5% of the errors. 4 errors were due to the use of other verbs than the given ones; these given verbs do not change form between the aorist and perfective; once

with the first verb, by using the verb *geεεed* (go upstairs) instead of *aley*, and 4 times by using *zellεε* (poured), *yesi t*, *iks it/isi d* (carried it) instead of the verb *a-wey* (bring).

The score of the reference group was 100% correct on items 2 and 3 of type 1, and 95% correct on the first item of type 1, and item 4 of type 2, with 1 answer as *igeεεed* (went upstairs) and *issars it* (he put it down). These last 2 verbs do not change form in the perfective. The last verb in Table 8.6, belonging to type 3, had 90% correct, with 2 errors, 1 error as *zall* by not changing *-a-* into *-u-*, and the other error as *ikemmel* (he finished) instead of the verb given.

Table 8.7: Scores (%) on category 2 of the perfective formation task for grade 1 children

Type	Affixation	Stem	Aorist	Perfective	Correct
1	Suffix	stem/stem-a	6 ḍer *(get off)*	ḍr-a	32
			7 ney *(get on)*	ny-a	19
		stem/stem-a/i	8 ecc *(ate)*	ecc-a	25
			9 seɣ *(bring)*	sɣ-a	33
			10 uc *(give)*	uc-a	71
			11 ɣer *(read)*	ɣr-a	20

Verbs of this second category belong to 1 type, submitting to suffixation. The performances on this subtask look better than on the previous one. The correct scores varied between 19% correct for item 7 and 71% correct for item 10. With the exception of these 2 extreme scores, other scores were between 20-33% correct.

As to the errors, most of them were as *ṣafi* (that was) with 33%, *kemmel* (finished) with 13%, *raḥ* (went) with 3%, or *yegg itt* (he did it) with 2%, making together 50% of the answers given. 20% of the errors were due to tense/aspect; 6% of them were related to giving another form than the perfective, such as the present tense as in *yeggur* (he is walking), *aqa t* (he is) for item 6, *txezzar* (she is looking), *tecc* (she is eating), *yeqqa t* (he is), and *i-t-qim* (he is seating) for item 11. One answer was in the future as *ad tecc* (she will eat) for verb 8. Errors related to giving a false perfective made up 5% of the answers, and were as *yinyi* (3 times), *ini* (3 times) for item 7, by suffixing *-i* instead of *-a*, or as *yawey dd* instead of item 10 (*uc-a*). The verb given belongs to type 1 of category 1. Even though, the form of the verb given was marked by keeping the initial *a-* instead of changing it into *i-*, for getting the perfective form. Recourse to the use of other verbs that do not change form at all made up 10% of the answers. These were twice as *yuya* (he left), once as *yus dd* (he came), or *uḍa* (he fell down) instead of item 6 *dra* (got off); 5 times as *iqqim* (he sat down), once as *igeεεed* (he went upstairs) for item 7 *nya* (went upstairs); once as *yerbu* (he carried on the back), or *isi* (carried) instead of *sɣa* (item 9), and twice as *issars it* (put it down) for *ɣra* (item 11). The children of the reference group made only 2 errors, both of them as *kemmel* (finished), with respect to item 8 *ecc* (ate) and item 11 *ɣra* (read).

Table 8.8: Scores (%) on category 3 of the perfective formation task for grade 1 children

Type	Affixation	Stem	Aorist	Perfective	Correct
1	No affixation	stem/stem	12 ɛawen *(help)*	ɛawen	34
			13 ndu *(spring)*	ndu	39
			14 kkes *(take off)*	kkes	54
			15 ɛdel *(repair)*	ɛdel	36
			16 ḥfer *(dig)*	ḥfer	12
			17 ireḍ *(put on)*	ireḍ	15
			18 ɛan *(push)*	ɛan	22

The core group scored better on the items of category 3, compared to the previous ones. The first 4 items scored better than the remaining ones. Item 14 scored the highest with 54% correct. The lowest scores were obtained with respect to the last 3 verbs (items 16, 17, and 18). A number of given correct answers were different from the expected verb, due to using another verb than the given one. The children used 4 times the verb *ikkes* (he took off) instead of item 12, once as *yeyur* (he walked) and *yenya* (he rode) instead of item 13, twice as *isi* (carried) for item 14 and once for item 17, once as *ṭṭef* (caught) for item 14, as *issuɛri* (he lifted up), and as *hwa* (went down) for item 18.

As to the type of errors, most of them were due to the use of *ṣafi* with 44%, *kemmel* with 13%, and *tuɣa* (s/he was) with 3%, or by giving an answer in Dutch like *glijden* (glide), or by code mixing as *ṣafi rijden* (that was driven) for item 14. These types of errors made up 64% of all answers. The remaining 6% of the scores was due to errors caused either by the use of the present form (4 times) as *iɛeddel* for item 15, and *yawi t* for item 16, or caused by using false perfective inflection (4 times), such as unnecessarily suffixing the stem with *-a* as in *teks-a* instead of *tekkes*, or prefixing with *a-* as in *t-a-wey itt* instead of *t-i-wi tt*, or infixing with *-a-* as in *ir-a-ḍ* (twice) instead of *ir-e-ḍ*.

The reference group scored again very high with 90% correct on item 12, 95% correct on items 14, 15, and 16, and 100% correct on items 13, 17, and 18. The errors committed were 5 in total, 4 times as *kemmel* (finished), and once by giving the present form as *tari* (going up) for item 14.

8.1.3 Conclusions and discussion

In order to have a global perspective on the scores for each verb, the correct scores of grade 1 children in the Netherlands are listed in Table 8.9 in descending order. The first column presents the ranking of the verbs, column 2 lists the verbs, and column 3 gives the percentages of correct scores. The following columns show the different criteria for each verb. 6 criteria are distinguished in this respect, i.e. first the verb category, second the aorist form of the verb, and then the form of the verb as used in the stimulus sentence. The last 2 columns describe the position of the transformations

the verbs take in the perfective, as to a prefix, infix and/or suffix position on the one hand, and no change at all as is the case of verbs of category 3 on the other hand.

Table 8.9: Scores (%) on the verbs of the perfective formation task for grade 1 children in the Netherlands

Ranking	Verbs	%	Verb cat	Aorist	Given tense	Transformation	Change
1	yi-nya	78	2	ney	future	suffix	-a
2	yu-ca	76	2	uc	future	suffix	-a/i
3	kkes	5	3	kkes	present	no change	–
4	i-ɛawn	46	3	ɛawen	present	no change	–
5	i-da	45	2	dder	present	suffix	-a
6	i-nḍu	38	3	nḍu	present	no change	–
7	i-sɣa	33	2	seɣ	future	suffix	-a/i
8	i-ɛdel	32	3	ɛdel	present	no change	–
9	i-ɣra	29	2	ɣer	present	suffix	-a
10	te-cca	25	2	ecc	future	suffix	-a
11	yi-wey	25	1	awey	future	prefix	i-
12	i-ɛarn	22	3	ɛarn	present	no change	–
13	yi-wey	17	1	awey	present	prefix	i-
14	t-ireḍ	15	3	ireḍ	present	no change	–
15	t-eḥfar	6	3	ḥfer	present	no change	–
16	y-uley	5	1	aley	future	prefix	u-
17	i-zzull	–	1	zall	present	infix	-u-
18	t-ura	–	1	ari	present	prefix-suffix	u-a/i

It is very obvious that verbs of category 2, subject to suffixation, and verbs of category 3, subject to no change, scored the best, compared to the verbs of category 1, subject to prefixation, pre-suffixation, and stem-alteration. The fact that verbs without change were easier than the other ones might be taken for granted, because the child had to change nothing in the basic stem of the verb. However, this is not as simple as it appears, because the child had in any way to get rid of the tense inflection attached to the stimulus verbs s/he heard. These were either the auxiliary *ad* of the future or *qat* of the present continuous, or the morpheme *t* of the present. Besides, verbs subject to suffixation scored better that the ones subject to prefixation, infixation, and pre-suffixation. The ones subject to prefixation are ranked in positions 11, 13, and 16. The 1 verb with suffixation takes position 17. The verb combining pre-suffix transformations takes the last position as number 18.

To sum up, the performances of the core group were in general low, with a mean of 4 items (22%) correct. The first category scored the lowest with 12% correct, while categories 2 and 3 got more or less the same percentage with 29% and 30% correct, respectively. At the individual level, 1 child obtained nearly the maximum correct score with 13 items out of 14, followed by another child with 11 items correct. The children of the reference group in Morocco scored nearly correct on all items, with very few

sporadic errors. This shows again the discrepancy between the core group and the reference group.

Verbs submitting to suffixation or no affixation were easier than verbs submitting to prefixation, pre-suffixation or infixation. The 2 items *ari/ura* and *zall/zull* scored zero correct. These 2 items involve pre-suffix transformation for the first item, and infixation for the second one. Verbs taking a suffix in particular appeared to be easier than the ones taking a prefix or infix.

This might reinforce the conclusion that suffixes are more salient, as said with respect to the plural task (see Chapter 5). Suffixes take an independent position after the stem (stem+suffix). Stem and suffix are brought together, but remain independent from each other, as opposed to infixation where the infixed morpheme is embedded in the stem, making it difficult to be perceived. In other studies it was found that inflections in linear structures (prefix+stem+suffix) are more transparent, productive, predictable, and regular than when they are embedded in the stem (Dorit & Malenky, 2001). Yet, while the prefix shares in this conclusion as having a linear structure, still, the position of the prefix seems to make inflections at this level more difficult than at the level of the suffix. Another factor may have been in favour of verbs with suffixes, i.e. the diversity of perfective morphology between *i-* and *u-* for the prefix, while the suffix form has only one way *-a* (in 3 person singular), with a second possible inflection *-i*, depending on the complement. This could be true at least in this task.

As to the types of errors, most of them were due to the use of strategies other than giving a mistaken perfective form. These strategies included the use of *ṣafi* with 41% of all errors, followed by *kemmel* with 18%. Errors related to the perfective itself, as a consequence of mis-affixation, made up only 4% of the errors. The reference group showed very few sporadic errors; 6 times by using *kemmel*, twice by using a verb without change instead of a verb subject to affixation, and once by using the present tense form. Expressions as *ṣafi* or *kemmel* as lexical items were due to repair for the lack of tense morphology. They were even used when they did not fit in the context, such as instead of the verb *aley* (go upstairs) and *awęd* (arrive). Schumann (1987) claims that there is a stage prior to either aspect or tense where language learners rely solely on the pragmatic functions of adverbs, calendric expressions, sequentiality, and context (implicit reference) to express temporality. The children of the core group seem to follow the same strategy. If so, they might be said to be still in the initial stage of perfective acquisition, and have not yet reached the stage of Tarifit tense morphology awareness. The emergence of a self-reflective, 'aware' language mode that involves conscious thought about linguistic units and processes has been noted at various stages of language development (Karmiloff-Smith *et al.*, 1996). This metalinguistic capacity increases with age and with growth of linguistic knowledge (Dorit & Malenky, 2001).

8.2 Grade 8 children

8.2.1 Task description and data collection procedure

The perfective transformation task for grade 8 children deals with 2 verb forms, i.e. the perfective of verbs in the affirmative form and the perfective of verbs in the negative form. Verbs in this task belong to 3 categories, based on the type of affixation they take in the affirmative form, i.e. whether they are subjected to prefixation, infixation, suffixation or no affixation. The changes are accounted for from the aorist form as a point of departure. Table 8.10 deals with verbs belonging to category 1, containing verbs with prefixation and pre-suffixation. Table 8.11 deals with verbs of category 2, subjected to suffixation, and Table 8.12 with verbs submitting to no affixation.

Table 8.10: Category 1 of the perfective formation task for grade 8 children

Type	Affixation	Aorist	Affirmative	Negative	Gloss
1	Prefixation	a-stem	u-stem	u-st-i-m	
		1 a-ley	u-ley	u-l-i-y	get on
		2 a-yem	u-yem	u-y-i-m	bring water
		a-stem	i-stem	u-st-i-m	
		3 a-weḍ	i-weḍ	i-w-i-ḍ	arrive
2	Pre-suffixation	a-stem	u-stem-a	u-stem-i	
		4 a-rj-i	u-rj-a	u-rj-i	dream

Category 1 contains 2 types of verbs. Verbs of type 1 are prefixed, and they are represented by the first 3 verbs. The first 2 verbs transform the initial *a-* into *u-* (a-stem/u-stem), while the third verb takes *i-* (a-stem/i-stem). In the negative form, they become subject to the simultaneous process of pre-infixation, i.e. besides the prefix *u-* or *i-*, the verbs take the infix *-i-* before the last consonant. The 1 verb of type 2 is pre-suffixed, by taking the prefix *u-* and the suffix *-a* (stem/u-stem-a). In the negative form, the prefix remains the same, while the suffix *-a* changes into *-i*.

Table 8.11: Category 2 of the perfective formation task for grade 8 children

Type	Affixation	Aorist	Affirmative	Negative	Gloss
1	Suffixation	stem	stem-a	stem-i	
		5 ḍer	ḍr-a	ḍr-i	get off
		6 ney	ny-a	ny-i	ride on
		7 seɣ	sɣ-a	sɣ-i	buy
		8 uc	uc-a	uc-i	give
		9 ɣer	ɣr-a	ɣr-i	read
		10 ejj	ejj-a	ejj-i	leave

Category 2 is made up of verbs subject to suffixation. It contains 6 verbs, which take the suffix *a-* in the affirmative form, and the suffix *-i* in the negative form. Half of the verbs are made up of 2 consonants like verbs 5, 7, and 9. These verbs have a schwa

between the 2 consonants, which disappears in the perfective form. Because the schwa is not considered as a phoneme, its disappearance is not considered as a vowel mutation. Verbs 6 and 8 are composed of 1 consonant and 1 vowel (CV/VC). Glides like *y* and *w* behave like consonants, and never turn into a vowel in any context. The perfective suffix *-a/-i* is adjusted to the stem. Verb 10 is a 1 consonant verb with a schwa. In the perfective form, the consonant is doubled, while taking the suffix *a-/i-*.

Table 8.12: Category 3 of the perfective formation task for grade 8 children

Type	Affixation	Aorist	Affirmative	Negative	Gloss
1	No transformation	stem	stem	st-i-m	
		11 kkar	kkar	kk-i-r	got up
		12 nḍu	nḍu	nḍ-i-w	spring
		12 ɛarn	ɛarn	ɛ-i-rn	push
		14 rḥel	rḥel	rḥ-i-l	move
		15 ɛawen	ɛawen	ɛ-i-wen	help
		16 ẓwa	ẓwa	ẓw-i	cross
		17 ru	ru	ru	cry
		18 wedder	wedder	wedder	be lost

Category 3 contains 8 verbs. These verbs do not change in the perfective in the affirmative form, i.e. they keep the same stem as in the aorist form. Yet, they change in the negative form, by taking *-i-* either as an infix as for items 11-15, or as a suffix as for item 16. The last 2 items, verbs 17-18, do not change form in the negative form neither, and thus keep the same stem (aorist form) in the affirmative as well as in the negative form.

The perfective formation task was conducted as a productive task, without a picture book. First, the child got to hear a verb in the aorist form, either alone as *uc* (give), or with a complement if necessary to make the meaning of the verb clear, as in *ari tabrat* (write a letter), to distinguish it from the verb *aley* (get on). Afterwards, the child heard the stimulus sentence *iḍennaḍ Ali* ...(yesterday Ali ...). The child was to put the verb in the perfective, and to finish the sentence. So far the verb is to be used in the affirmative form. For the negative form, the child heard immediately another stimulus sentence as *maca umas ur* ... (but his brother not ...), which should again be finished with the same verb heard at the beginning. As such, each verb was used twice in the perfective form, once in the affirmative form and once in the negative form. The meaning of each verb was explained if the child did not know it.

8.2.2 Data analysis

A correct answer is one which conforms to the expected form as listed in the tables before. Answers with other verbs than the given ones were considered as correct, provided they belong to the same category as the one used in testing, and were correctly inflected. Any deviation at the level of the stem, person or number was not considered as an error. Verbs of category 2, taking the suffix *-a*, take the suffix *-i*

instead when the pronominal complement is used after the verb, as in *ur-a tabrat/ ur-i-tt* (he wrote the letter/he wrote it). Such answers were also considered as correct. Answers judged as errors were the ones given in the aorist form; verbs with a wrong perfective form; another form than the perfective such as the present tense; when using another verb belonging to another category than the one tested; and when using the affirmative form instead of the negative one or otherwise around.

This section is devoted to the presentation of the outcomes of the perfective formation task. First, the overall scores of grade 8 children in the Netherlands and Morocco are given in Table 8.13. The table distinguishes between the affirmative and the negative form. Table 8.14 exhibits the overall achievements on the 3 categories, followed by specific performances on the verbs of each category. Results related to verbs of category 1 are dealt with in Table 8.15; the ones of category 2 are treated in Table 8.16, and finally category 3 in Table 8.17. With the exception of the first table, only the results of the core group will be presented, given the very high scores the reference group achieved. Still, they will be commented on.

Table 8.13: Scores on the perfective formation task for grade 8 children

Grade 8 children	Form	N items	Mini	Maxi	Mean	%	S.D.
Core group	affirmative	18	10	17	13.0	72	1.98
	negative	18	1	13	5.0	28	3.14
Reference group	affirmative	18	17	18	17.5	99	0.22
	negative	18	17	18	17.5	99	0.22

There appears to be a clear difference between the scores of the core group and the reference group. The core group scored 72% correct on the affirmative form, and 28% correct on the negative form. The scores of the reference group were close to the maximum, with 99% correct on both forms. The difference between the 2 groups is most obvious with respect to the negative form, where the mean of the core group was 5 items correct (out of 18 items), while that of the reference group 17.9. There occurred only 1 error in each form.

The core group scored much better in the affirmative form. The scores were between 10 and 17 items correct. 50% of the children scored above 11 items correct. The scores on the negative forms were between 1 and 13 items correct. 50% of the children scored lower than 5 items correct.

Table 8.14: Scores on the 3 categories of the perfective formation task for grade 8 children in the Netherlands

Categories	N items	Affirmative		Negative	
		Mean	%	Mean	%
1 Prefixation & pre-suffix	4	1.78	45	1.11	28
2 Suffixation	6	4.32	74	2.35	42
3 No affixation	8	6.53	80	1.75	20

In terms of categories, the affirmative forms scored much higher than the negative ones. However, there was still a discrepancy between the categories of the affirmatives, mainly with respect to category 1 in comparison with the other 2 categories. The low score of category 1 is attributed to the type of affixation, involving modification at the prefix and suffix level.

As to the negative forms, the scores were 28%, 42%, and 20% correct, respectively. The last category scored the lowest. This is because the verbs of category 3 in the negative form, unlike in the affirmative form, submit to infixation (items 11-15) or suffixation (item 16). 2 verbs of category 3 (items 17-18) remain unchanged in the negative form too, i.e. *ru* (cry) and *wedder* (be lost).

Table 8.15: Scores on category 1 of the perfective formation task for grade 8 children in the Netherlands

Type	Affixation	Aorist	Affirmative	%	Negative	%
1	Prefix					
	a-stem/u-stem	1 aley *(get on)*	u-ley	50	u-l-i-y	39
		2 ayem *(bring water)*	uyem	18	uy-i-m	18
	a-stem/i-stem	3 aweḍ *(arrive)*	i-weḍ	75	i-w-i-ḍ	22
2	Pre-suffix					
	stem/u-stem-a	4 arji *(dream)*	u-rj-a	38	u-rj-i	35

Items of category 1 scored differently. In the affirmative form, item 3 scored the highest with 75% correct, while item 2 scored the lowest with 18%. It appears that the frequency of the items in daily use has influenced the scores. Most of the children did not know the meaning of item 2, scoring the lowest.

Most of the errors were due to giving the aorist form as the perfective, with 25% for the first verb, 71% for the second one, 25% for the third one, and 31% for the last one (Table 8.15). As an illustration, item 1 got answers as *y-arey* (once), item 2 as *y-ayem* (11 times), *y-eyem* (4 times), *y-ayem d* (4 times), and *aym d* (once), item 3 as *aweḍ* (2 times) or *y-aweḍ* (5 times), and item 4 as *erj* (8 times).

Errors in the form of mistaken perfective were very few, restricted to item 1 with 25%, and item 4 with 31%. Answers with false perfective forms were *y-iri* (6 times) for item 1, by changing the initial vowel from *a-* into *i-*, and *y-ara* (1 time) by keeping the initial *a-* unchanged and modifying the vowel *-i* at the end of the stem into *-a*. Item 2 got 11% of the answers as *yamd* or *yamend*, without changing the prefix into *u-*, and as *isi dd* by using another verb, not changing this form in the perfective. As to item 4, answers were *a(r)ja* (5 times), by incorrectly prefixing *a-* and correctly suffixing *-a*, or *u-rj-i* (2 times) by correctly prefixing *u-* and incorrectly suffixing *-i* instead of *-a*.

The negative forms scored lower than the affirmative ones. The first item scored the highest with 39% correct, while item 2 scored the lowest with 18% correct. The errors committed were mostly due to the use of the aorist form as (*ur*) *aley, ayem, awey* or *arj*. Such errors made up 47% for the first verb, 57% for the second one, 39% for the third

one, and 15% for the last one. There were other errors due to giving the correct affirmative perfective form instead of the negative one, as (*ur*) *uyem dd*, *iweḍ*, or *urja*. In the same way, item 4 got errors as *arji* (8 times), by not changing the prefix, while correctly suffixing *-i* or *ur a(r)ja* (3 times), by suffixing *-a* to the aorist form as in the affirmative perfective, but without any prefix changes. Item 2 got another type of errors as *ur usi dd* (once), by giving the correct form of a verb not changing in the perfective, or *yemend* (1 time), *yemed* (1 time), or *yamed* (2 times).

Table 8.16: Scores on category 2 of the perfective formation task for grade 8 children in the Netherlands

Type	Affixation	Aorist	Affirmative	%	Negative	%
1	Suffixation stem/stem-a	5 ḍer *(get off)*	ḍr-a	100	dr-i	11
		6 ney *(get on)*	ny-a	63	ny-i	64
		7 seɣ *(buy)*	sɣ-a	71	seɣ-i	46
		8 uc *(give)*	uc-a	73	uc-i	46
		9 ɣer *(read)*	ɣr-a	57	ɣr-i	30
		10 ejj *(leave)*	ejj-a	78	ejj-i	56

The performance of the core group in this affirmative second category was better than in the previous one. The lowest score was 57% for item 9. Item 5 scored the maximum with 100% correct. The reference group in Morocco achieved the maximum for all verbs.

As to the errors, they were predominantly in the aorist form as *ney*, *seɣ*, *uc*, *ɣer*, or *ejj*. As such these answers were just a repetition of the stimulus verb given to the children. They ranged between 7% for item 6 and 39% for item 9. False perfective answers were restricted to item 6 with 30%, as *ini* (2 times), *yiniy* (1 time) or *yenyi* (2 times). The common error between these answers lies in suffixing *-i* instead of *-a*. Similarly, item 7 got 11% of false perfective forms, as *sɣi* (2 times) by suffixing *-i* instead of *-a*, as *siɣ* (1 time) by infixing *-i-* instead of suffixing *-a*, and as *ijji* by giving the negative perfective form. Other types of errors were restricted to the last 3 items, as *itca* and *itɣa* in the present tense continuous form.

The negative forms of category 2 scored lower than the affirmative ones. Performances varied between 11%-64% correct. Still, they were much better than the achievements on the negative forms of the first category. The errors were mostly due to giving the correct affirmative form as answer. As such, the suffix *-a* of the affirmative form was kept unchanged instead of using the suffix *-i*. Besides, and to a lesser extent, there were errors due to the use of the aorist form by repeating the stimulus verb. Such answers ranged between 4% for item 6 and 37% for item 9. Other sporadic errors were *ur siɣ*, by infixing *-i-* for item 7, and *ur itceca* (1 time) for item 8, supposed to be a present continuous form.

Table 8.17: Scores on category 3 of the perfective formation task for grade 8 children in the Netherlands

Type	Affixation	Aorist	Affirmative	%	Negative	%
1	No change	11 kkar *(get up)*	kkar	100	kk-i-(r)	14
		12 nḍu *(spring)*	nḍu	100	nḍ-i-w	7
		13 ɛan *(push)*	ɛarn	90	ɛ-ir-n	8
		14 rḥel *(move)*	rḥel	78	rḥ-i-l	13
		15 ɛawen *(help)*	ɛawen	100	ɛ-i-wen	11
		16 ẓwa *(cross)*	ẓwa	100	ẓw-i	25
		17 ru *(cry)*	ru	7	ru	4
		18 wedder *(be lost)*	wedder	100	wedder	100

Verbs in category 3 do not submit to any change when moving from the aorist to the affirmative perfective form. 4 verbs got the maximum score of 100% correct. Item 17 was the exception, scoring the lowest with 7% correct. This is due to the stimulus verb form used, which was *tru* instead of the aorist form *ru*, resulting in 93% of the errors on the item as *tru*. This explains that the high score on this category was not due to knowledge of the affirmative form, but rather to the strategy of using the aorist form as perfective form, similar to the categories before. In this category, the use of the aorist is also the correct affirmative perfective form.

The few errors committed occurred with respect to item 13, by giving the present tense form as in *ittɛarn*, and with respect to item 14 by giving a mistaken perfective form as *irḥil* by infixing *-i-*, or as *iggaj* (a synonym of item 14) by infixing *-a-* instead of keeping the aorist form (*gguj*). As to item 17, nearly all errors were as *ittru* (13 times). Other answers were as *tuɣa ittru* (he was crying) (2 times) in the perfect continuous form, or as *itt-ett-ru* (1 time) with a double marking for imperfective.

The negative forms of category 3 scored very low compared to the affirmative forms of the same verbs. The negative forms differ from the affirmative forms by being subject to affixation, by taking the infix *-i-* as for items 11-15, or the suffix *-i* as for item 16. Items 17 and 18 are exceptions to the affixation rule by keeping the same aorist form in the negative form too, leading to a score of 100% correct for item 18. Item 17 scored the lowest with one answer correct (4%). Most of the errors are as *ur tru* (23 times), or as *ittettru* (1 time) in the present form. The present form *ttru* (cry) was given to the children as stimulus verb. Other sporadic errors occurred with respect to item 14, with 12% errors as *ur iruḥ* (did not go), by using the verb *ruḥ* which keeps the same form in the aorist as well as in the negative form.

8.2.3 Conclusions and discussion

Table 8.18 lists the correct scores for each verb in descending order, followed by a description of the categories the verbs belong to, the form of the verb either as affirmative or negative, the place of affixation, and the type of transformation brought to the stem if any, in the last column.

Table 8.18: Correct scores (%) on items of the perfective formation task for grade 8 children in the Netherlands

Ranking	Verbs	%	Verb cat	Aorist	Form	Transformation	Change
1	kk-a-r	100	cat 3	kkar	affirmative	suffix	a
2	ɛawen	100	cat 3	ɛawen	affirmative	no change	–
3	ḍr-a	100	cat 2	ḍer	affirmative	suffix	a
4	zwa	100	cat 3	zwa	affirmative	no change	–
5	nḍu	100	cat 3	nḍu	affirmative	no change	–
6	weddar	100	cat 3	wedder	negative	no change	–
7	weddar	100	cat 3	wedder	affirmative	no change	–
8	ɛarn	89	cat 3	ɛarn	affirmative	no change	–
9	rḥel	78	cat 3	rḥel	affirmative	no change	–
10	jj-a	78	cat 2	ejj	affirmative	suffix	-a
11	ny-i	75	cat 2	ney	negative	suffix	-i
12	i-weḍ	75	cat 1	aweḍ	affirmative	prefix	–
13	uc-a	73	cat 2	uc	affirmative	suffix	-a
14	sɣ-a	71	cat 2	seɣ	affirmative	suffix	-a
15	ny-a	63	cat 2	ney	affirmative	suffix	-a
16	ɣr-a	57	cat 2	ɣer	affirmative	suffix	-a
17	jj-i	56	cat 2	ejj	negative	suffix	-i
18	u-ley	50	cat 1	aley	affirmative	prefix	a-
19	sɣ-i	46	cat 2	seɣ	negative	suffix	-i
20	uc-i	46	cat 2	uc	negative	suffix	-i
21	u-l-i-y	39	cat 1	aley	negative	pre-infix	u-i-
22	u-rj-a	38	cat 2	erj	affirmative	pre-suffix	u-a
23	u-rj-i	35	cat 2	erj	negative	pre-suffix	u-i
24	ɣr-i	30	cat 2	ɣer	negative	suffix	-i
25	ẓw-i	25	cat 3	ẓwa	negative	suffix	-i
26	a-weḍ	21	cat 1	iwiḍ	negative	pre-infix	-i-
27	u-y-i-m	18	cat 1	ayem	negative	pre-infix	u-i-
28	u-yem	18	cat 1	ayem	affirmative	prefix	u-
29	kk-i-r	14	cat 1	kker	negative	infix	-i-
30	rḥ-i-l	12	cat 3	rḥel	negative	infix	-i-
31	ɛ-i-wen	11	cat 3	ɛawen	negative	infix	-i-
32	ḍr-i	11	cat 2	ḍer	negative	suffix	-i
33	nḍ-i-w	7	cat 3	nḍu	negative	infix	-i-
34	ru	4	cat 3	ru	negative	no change	–
35	ɛ-ir-n	4	cat 3	ɛarn	negative	infix	-i-
36	ru	–	cat 3	ru	affirmative	no change	–

There are 7 items which obtained the maximum score of 100% correct; 6 of them belong to category 3, and do not submit to any change between the given aorist form and the required perfective. Besides, with the exception of item 6 *weddar* (be lost), all of these 7 top scoring verbs were in the affirmative perfective form. The one negative form in position 6 is the verb *weddar*, which takes the same form in the aorist as well as in the affirmative and negative forms.

The affirmative forms scored among the first 16 best items, while the negative ones scored from rank 17 on, with a few exceptions here and there. Affirmatives scoring at

the top are the ones submitting to no change or to suffixation. The affirmative forms submitting to prefixation, pre-infixation and pre-suffixation achieved lower results. The same holds for the negative forms, in that verbs submitting to suffixation scored better than verbs submitting to the other types of affixation.

In conclusion, it appears that affirmative perfective forms scored much better (72%) than negative forms (28%). The affirmative form is the unmarked form, while the negative form is the marked one. As such, the former is acquired first and taken as standard form. Second, verbs submitting to no change when moving from the aorist to the perfective, scored better than the ones submitting to suffixation. In return, the latter did better than the ones subject to prefixation, infixation or pre-suffixation.

Table 8.19 gives an overview of the types of errors obtained with respect to verbs in the affirmative form. Errors were mostly due to the use of the aorist form for category 1 and 2. The children did no more than prefixing the personal pronoun *y/i* to the stem. Answers in the aorist form imply an inability to produce any perfective form. For verbs of category 3, the aorist and the perfective form were the same. This fact explains the zero errors at the aorist level on the one hand, and the few errors within this category in general on the other hand. Apart from one error at the level of the perfective, the other errors were caused by affording the present tense.

Table: 8.19: Types of errors (%) on the affirmative perfective form for grade 8 children in the Netherlands

Error types	Cat 1: pre/-suffixation	Cat 2: suffixation	Cat 3: no affixation
Aorist	38	18	–
False perfect	14	7	4
Other	3	4	18

As far as the negative form is concerned, most of the children did not succeed in realizing this form, for all 3 categories. They gave the same affirmative form as the perfective for the negative form. This holds true mainly for categories 2 and 3. Table 8.20 shows the types of errors in the negative form. The errors were more in the aorist form for category 1, and in the perfective form for category 2. Nearly all mistaken perfective forms were in the correct affirmative perfective form. As to category 3, errors in the aorist or perfective had the same stem, and thus were considered as one category. In the same way as before, the verb *ru* resulted in 31% of the answers in the present form.

Table 8.20: Types of errors (%) on the negative perfective form for grade 8 children in the Netherlands

Form	Cat 1: pre/-suffixation	Cat 2: suffixation	Cat 3: no affixation
Aorist/perfect	57	56	48
Other	1	2	31

In sum, most grade 8 children can be judged as being still in the stage prior to tense use to quote Schumann's (1987) expression, in which they rely on the aorist as a neutral form to express the perfective. Being enable to afford the right perfective form, stating the event of the verb in the past, the children could have relied on the adverb *idennad* (yesterday) to convey the tense message. In fact, second language learners of Dutch appear to use more or less the same strategies, when reporting events in the past (Starren, 2001). They have recourse to discourse-pragmatic means by using a lexicon with reference to the past as *Ankara*, as in *in Ankara I marry there*, meaning s/he married in Ankara when s/he was there, or by using temporal adverbials as *yesterday, I go to the park*, without putting the verb itself in the past tense; some learners go further by using an auxiliary in the past tense as in *I was come in the Netherlands* (Starren, 2001:278). The use of different means evokes differences in proficiency level among learners. It also implies that the acquisition of perfective passes through various stages, taking as a point of departure the use of pragmatic lexical means.

CHAPTER 9

Word order construction

This chapter is concerned with the study of word order construction. Grade 1 children were submitted to a receptive task, with sentences in 3 possible different word orders in Tarifit. Grade 8 children performed a productive task in which they were required to produce particular sentences with variable word orders. Part 9.1 deals with grade 1 children, while part 9.2 is concerned with grade 8 children.

9.1 Grade 1 children

9.1.1 Task description and data collection procedure

The task for grade 1 children focusses on word order perception in terms of the 3 possible word order patterns in Tarifit, i.e. SVO, VSO, and OVS. The task includes 16 sentences, i.e. 5 as SVO, 5 as OVS, and 6 as VSO. The sentences are made up of 3 lexical items, i.e. 2 nouns and 1 verb. Sentences with OVS order have an extra morpheme which is the verb suffix *it/itt*, referring to the nominal object in initial position.

Word order is the central cue in this part of the study. All other cues are neutralised as much as possible, by attributing the same gender type to both nouns in each sentence for the gender cue, by using singular forms only for the number cue, and by using only animates for both nouns in each sentence for the noun animacy cue. However, there were some extra cues still present, such as the difference at the level of animacy type between nouns referring to humans versus animals, and another difference at the level of status between agents, i.e. between father and son, man and boy, or woman and girl.

The 3 word order types used in the task for grade 1 children are presented in the tables below. Table 9.1 deals with sentences with SVO order, Table 9.2 presents sentences with VSO order, and Table 9.3 shows sentences with OVS order.

Table 9.1: Sentences with SVO word order for grade 1 children

Nr	S	V	O	Gloss
1	Aɣyul	i-lqef	aḥenjir	The donkey bumps into the boy
2	Ali	yisi	Farid	Ali is carrying Farid
3	Tafunast	ttɛarn	Malika	The cow is pushing Malika
4	Malika	ttsewwar	yemmas	Malika is taking a picture of her mother
5	Tafunast	t-ttebbaɛ	tamɣart	The cow is following the woman

There are 5 sentences with SVO order. The first 2 sentences have masculine nouns as subject and object, while the last 3 ones have feminine nouns as subject and object. The nouns of the 5 sentences differ in animacy or in status, with the exception of sentence 2. For sentences 1, 3, and 5, the first subject-noun is animal, while the object-noun is human. Grammatically speaking, the first noun is the subject and thus performs the action referred to. From a pragmatic perspective, this is not always true. Both nouns are equal candidates to perform the action of bumping into something. For sentences 3 and 5, given the actions described by the verbs, the nouns referring to humans are slightly favoured in performing the action of pushing (3) or walking behind (5) the animal. This is the reason why nouns referring to humans are assigned different functions, i.e. one as object for sentence 3 and the other one as subject for sentence 5. As for sentence 4, both nouns refer to humans, but they differ in status, i.e. daughter versus mother. Malika is the first noun-subject, and as such performs the action of taking a photo of the mother. Both nouns are likely to perform the action, and in this way status is not supposed to have an influence on the interpretation of the sentence.

Table 9.2: Sentences with VSO word order for grade 1 children

Nr	V	S	O	Gloss
6	I-ccat	Ali	aɣyul	Is hitting Ali the donkey *Ali is hitting the donkey*
7	I-carref	Farid	Babas	Is tying up Farid his father *Farid is tying up his father*
8	I-ttjarra	Ali	aqzin	Is pulling Ali the dog *Ali is pulling the dog*
9	T-essekkar	Aicha	yemmas	Is waking up Aicha her mother *Aicha is waking up her mother*
10	T-eɣḍel	Malika	Aicha	Dropped Malika Aicha *Malika dropped Aicha*
11	T-eṭṭef	Malika	Aicha	Grabbed Malika Aicha *Malika grabbed Aicha*

The second word order category is VSO, made up of 6 sentences. The first 3 sentences comprise nouns, both as subjects and objects, in the masculine form, while the last 3 sentences include nouns in the feminine form. The nouns differ with respect to animacy and status. The first nouns, as subjects, of sentences 6 and 8 are humans, while the second nouns, as objects, stand for animals. As to sentences 7 and 9, the nouns are equal in animacy, as humans, and they differ in status, i.e. father and mother versus son and daughter. The nouns of the last 2 sentences are equal in both animacy and status, showing Aicha and Malika as 2 friends. The VSO word order indicates that the noun following the verb immediately is the subject, while the second noun is the object.

Table 9.3: Sentences with OVS word order for grade 1 children

Nr	O	V	S	Gloss
12	Aryaz	i-ssekkar it	Ali	Man woke up-him Ali *Ali woke up the man*
13	Ali	i-ṭṭef it	Farid	Ali caught-him Farid *Farid caught Ali*
14	Aryaz	i-ɣḍel it	Ali	The man dropped-him in the water Ali *Ali dropped the man in the water*
15	Tamɣart	t-carrf itt	Aicha	The woman is tying-her Aicha *Aicha is tying the woman*
16	Taḥenjirt	t-ut itt	tcamma	The girl hit-her the ball *The ball hit the girl*

The third category is OVS word order, with 5 sentences. Sentences with OVS order have an extra inflectional morpheme, compared to the 2 previous categories of SVO and OVS. This extra morpheme is suffixed to the verb and refers to the object in the initial position of the sentence. The subject of this type of sentences is the second noun, occurring in the last position in the sentence, after the verb. It is just the opposite of the SVO pattern.

The nouns of sentences 12, 14, and 15 differ in status, in that the first nouns *aryaz* (man) and *tamɣart* (woman), taking the object position, are higher in status than the second ones *Ali* and *Aicha* (as children), as subjects. The nouns of sentence 16 differ with respect to animacy, i.e. the first noun (object) is animate (girl), while the second noun (subject) is non-animate (ball).

The task was conducted as a receptive task with a picture book. Each sentence was accompanied by 3 corresponding pictures on the same page. 1 picture matches the right answer. For a sentence like the boy kicks the ball, the picture matching this sentence is one showing a boy kicking a ball. The first noun preceding the verb is the subject. The second picture describes just the opposite scene by showing a ball hitting a boy, while the third picture shows no action at all, i.e. a ball lying on the ground and a boy standing next to it. The child first sees the 3 pictures next to each other, and hears the sentence afterwards. S/he has to point to the picture that matches the sentence. 3 or more examples are tried before the start of testing.

9.1.2 Data analysis

The answers were categorised into 3 types, i.e. a correct answer when the child points to the right picture, an alternative false answer when the child indicates the picture showing the object noun as the subject of the action, e.g. for the sentence the boy kicks the ball, the child points to the picture with the ball hitting the boy as the picture matching the stimulus sentence, and a totally wrong answer when the child points to the picture describing no action at all, for instance the picture with the ball on the

ground and the boy standing next to it. Both the second and the third answer are considered as errors.

The outcomes of the study are presented in this section, starting with the general scores for the core group and the reference group in Table 9.4, followed by the general scores on each word order category in Table 9.5, and the scores obtained with respect to each word order type, i.e. SVO sentences in Table 9.6, VSO sentences in Table 9.7, and OVS sentences in Table 9.8. In these last 3 tables, the scores of the reference group in Morocco will not be presented, given the high scores they reached, but these scores will be commented on.

Table 9.4: Scores on the word order construction task for grade 1 children

Grade 1 children	N items	Mini	Maxi	Mean	%	S.D.
Core group	16	5	12	9	56	1.93
Reference group	16	12	15	14	87	0.68

The core group scored a mean of 9 answers correct. The range within the group is large with 7 items. Similarly, the standard deviation is large too with nearly 2 items difference. 25% of the children (8 children) scored 12 items correct or higher. The distribution of the scores within the group is inclined towards a normal distribution. The reference group scored a mean of 14 items correct, with a range of 3. Dispersion within the group was low with a standard deviation of .68.

Table 9.5: Scores on the word order task categories for grade 1 children

Word order	N items	Grade 1 children	Mean	%	S.D.
SVO	5	core group	3.29	66	1.00
		reference group	4.15	83	0.58
VSO	6	core group	3.35	56	1.17
		reference group	4.70	78	0.73
OVS	5	core group	2.67	53	1.04
		reference group	4.65	93	0.58

Performances on the 3 categories differed from each other for the core group. SVO patterns scored the highest with 66% correct, followed by VSO with 56%, and OVS with 53%. A t-test shows that the means of SVO and VSO do not differ significantly from each other (t-value: -.26, p-value (2-tailed): .79), while the means of SVO and OVS do differ from each other (t-value: 2.21, p-value (2-tailed): .03), and in the same way the means of VSO and OVS (t-value: 2.38, p-value (2-tailed): .02). This implies that the OVS pattern is the most difficult one for the children in the Netherlands.

As for the reference group in Morocco, the scores on the 3 categories were high and close to each other. In contrast to the core group, the OVS category scored the highest, followed by SVO and VSO. The t-test shows that the means of SVO-VSO differ significantly from each other (t-value: -2.34, p-value (2-tailed): .03). The same holds

for SVO-OVS (t-value: -2.12, p-value (2-tailed): .04), while not for VSO-OVS (t-value: .22; p-value (2-tailed): .82).

Table 9.6: Scores (%) on SVO sentences for grade 1 children in the Netherlands

Nr	SVO	Correct	False Alternative	Totally
1	Aɣyul ilqef aḥenjir *Donkey bumps (into) the child*	87	13	–
2	Ali yisi Farid *Ali is carrying Farid*	52	26	22
3	Mucc ittḥada aqzin *The cat is touching the dog*	71	23	6
4	Tafunast ttɛarn Malika *The cow is pushing Malika*	55	45	–
5	Malika ttsewwar yemmas *Malika is taking a picture (of) her mother*	65	29	6

The scores of the core group on SVO patterns vary between 87% correct as the highest score for the first sentence, and 52% correct as the lowest score for the second one. Most of the children of the core group have referred to the right picture with the right agent, and thus reveal that the first noun preceding the verb is the subject of the stimulus sentence.

Most of the errors were alternative answers, by indicating the picture with the object-noun as the agent of the verb-action. Sentence 2 resulted in relatively many errors in the form of total error, whereby the picture without any action taking place was indicated as the correct one. As to sentence 2, with the lowest score, and mainly with respect to 22% total false answers, this is very likely due to the tense of the verb. The verb *yisi* (carried) is in the perfect form. It is likely that the children thought that the action is finished, as opposed to the imperfect form *ikessi* (is carrying), and thus pointed to the picture where no action is taking place. The utilized form *yisi* could still be interpreted as referring to the present/imperfective, when *yisi* is considered as a stative verb, the same way as in *yarbu t* (he is carrying him on his back).

The explanation of the alternative scores leads one to think that there are other factors which have intervened, such as animacy and/or status. Regarding sentence 4 for instance, scoring the lowest with 55% correct, it might be that the children could not assume that the fact of a cow pushing a human can take place in reality. In this instance, the word order favours the first noun cow as subject or agent, while the pragmatic interpretation of the sentence favours the human noun Malika (the girl) in the second position as subject.

The reference group in Morocco scored much higher on all items. The scores are between 80% and 90% correct. One exception is item 3, scoring 55% correct. The sentence indicating a cat touching a dog, was interpreted by 45% of the children as the dog touching the cat, with the second noun interpreted as the agent. The children

seem to have overlooked the grammatical structure favouring the first noun (cat) as agent, and relied on status differences (cat with a low status compared to dog) between the 2 nouns, thus favouring the dog as the subject.

Table 9.7: Scores (%) on VSO sentences for grade 1 children in the Netherlands

Nr	VSO	Correct	False Alternative	Totally
7	Iccat Ali yaɣyul *Ali is hitting the donkey*	35	63	–
8	Icarref Farid babas *Farid is tying up his father*	84	16	–
9	Ittjarra Ali yaqzin *Ali is pulling the dog*	55	23	22
10	Tessekkar Aicha yemmas *Aicha woke up her mother*	37	63	–
11	Teɣḍel Malika Aicha *Malika dropped Aicha*	60	27	13
12	Teṭṭef Malika Aicha *Malika grabbed Aicha*	70	23	7

In a similar fashion to the former category, the scores ranged from a high score of 84% correct to a low score of 35% correct. As to sentence 8, scoring the highest, the 2 nouns differ in status (father versus son), and given the action of tying up, it is likely that the father performs the action. However, only 16% of the children have indicated the father as the subject. In sentences 11 and 12, scoring mostly correct, the 2 nouns are equal at the level of animacy and status. The fact that there are children who indicated the second noun as subject is not easy to explain in terms of word order principles. In these 2 sentences, totally false errors were encountered too.

Most of the errors were alternative answers, due to indicating the second noun (object) as subject. Low correct scores are noticed with respect to sentences 7, 9, and 10, in which many answers favoured the second noun as subject. As to sentence 7, 63% of the answers were alternative false answers, which indicate that the children have reasoned that the donkey is more likely to kick the boy than the other way around. The same can be said about sentence 10, where usually the mother is the one who wakes the child up, and not the reverse.

The scores of the reference group are high and do not show large fluctuations between the sentences. Most of the children agreed that the first noun occurring immediately after the verb is the subject, irrespective of any difference between the 2 nouns in status or whatever else. Sentence 10 scored the highest with 100% correct, and sentence 9 the lowest with 60% correct, 20% as false alternative and 20% as totally false. The scores on this sentence are nearly the same for both the core group and the reference group.

Table 9.8: Scores (%) on OVS sentences for grade 1 children in the Netherlands

Nr	OVS	Correct	False Alternative	Totally
13	Aryaz i-ssekker-it Ali *Ali woke up the man*	55	39	6
14	Ali i-ṭṭef-it Farid *Farid catched Ali*	42	39	19
15	Aryaz i-ɣeḍr-it Ali *Ali dropped the man*	45	55	–
16	Tamɣart t-carrf-it Aicha *Aicha is tying up the woman*	60	40	–
17	Taḥenjirt t-ut itt tcamma *The ball hit the girl*	70	13	17

It is obvious from a first look at Table 9.8 that the correct answers in this category are lower than those in the 2 previous categories. The children who gave alternative answers have interpreted the OVS pattern as SVO, despite the presence of the extra suffix cue *-it*, referring to the first noun as object.

The factor of status remains a valid explanation for the choice of other children of the first noun instead of the second one as agent, mainly with respect to sentences 13, 15, and 16. Sentence 14 resulted in 39% false alternative answers, while both persons have the same status. Besides, 19% of the errors were caused by choosing the picture where no action was taking place. The perfective form of the verb might explain this result. The children thought that the action was finished, and accordingly favoured the picture where no action was taking place. The same holds true for sentence 17.

The reference group scored the best on this category, with 100% correct on sentence 14, 90% correct on sentences 12, 14, and 15, and 95% correct on sentence 16. As such, alternative false answers were very rare. This agreement between the vast majority of the children as to the fact that the second noun in OVS order is the subject confirms that they have used one strategy to interpret the sentences, i.e. the extra cue *-it* suffixed to the verb. However, some nouns are more eligible to be wrongly interpreted as subjects in terms of animacy and status, such as sentences 14, 15, and 17. The grammatical cue seems to weigh more in determining the subject, at least in this category.

9.1.3 Conclusions and discussion

In this concluding section, a general overview of the scores on all sentences will be presented in Table 9.9, followed by a summary and discussion of the outcomes obtained. Table 9.9 shows the results obtained for each item, arranged in a descending order. Besides, a number of factors are presented that may have explained the scores obtained, in particular word order, status, and animacy of nouns.

Table 9.9: Scores on sentences of the word order construction task for grade 1 children in the Netherlands

Ranking	Sentence	%	Word order	Status		Animacy	
				Subject	Object	Subject	Object
1	Aɣyul ilqef aḥenjir	87	SVO	low	high	animal	human
2	icarref Farid babas	84	VSO	low	high	human	human
3	Mucc ittḥada aqzin	71	SVO	low	high	animal	animal
4	Taḥenjirt tut itt tcamma	70	OVS	low	high	object	human
5	Teṭṭef Aicha Malika	70	VSO	equal		human	human
6	Malika ttsewwar yemmas	65	SVO	low	high	human	human
7	Tamɣart t-cerraf itt Aicha	60	OVS	low	high	human	human
8	Teɣḍer Malika Aicha	60	VSO	equal		human	human
9	Aryaz issekker it Ali	55	OVS	low	high	human	human
10	Tafunast ttɛarn Malika	55	SVO	low	high	animal	human
11	Ittjerra Ali aqzin	55	VSO	high	low	human	animal
12	Ali yisi Farid	52	SVO	equal		human	human
13	Aryaz iɣeḍl it Ali	45	OVS	low	high	human	human
14	Ali ittf-it Farid	42	OVS	equal		human	human
15	Tessekker Aicha yemmas	37	VSO	low	high	human	human
16	Iccat Ali yaɣyul	35	VSO	high	low	human	human

Table 9.9 indicates a trend in favour of SVO and VSO word order, at the expense of OVS order, i.e. 4 of the 5 sentences with OVS order are listed in position 7 or lower. This implies that the children have more success with SVO and VSO orders than with OVS. The common fact between SVO and VSO is that in both cases the noun-subject precedes the noun-object. In OVS order, the noun-subject takes second position, while the noun-object takes initial position in the sentence. As such, the ordering of the 2 nouns in OVS and SVO looks exactly the same, i.e. NVN. The difference between the 2 categories is made up by the morpheme suffixed to the verb in the case of OVS sentences. Most of the children who failed in the OVS category have missed the function of this morpheme. On the other hand, the reference group in Morocco scored the best on OVS sentences.

The effect of status is absent. It was expected that nouns with a high status might be easily attributed the subject function, as opposed to nouns with a low status which would be easily interpreted as objects. This did not happen. A similar conclusion is reached with respect to animacy, distinguishing between human and animal. Nouns with the attribute human were strongly dominant in the task, a fact that may have obscured the presence of nouns with animal reference.

To sum up the general findings, the best performances of the core group are in favour of SVO sentences, followed by VSO and OVS (i.e. SVO>VSO>OVS). It was easy to recognize the subject when the noun-subject precedes the noun-object. When the noun-object precedes the noun-subject as in OVS, children tend to interpret the first

noun as subject. In counter part, the reference group scored best on OVS, followed by SVO and VSO (i.e. OVS>SVO>VSO).

The difficulty the core group with OVS is attributed to the lower grammatical proficiency of the children in Tarifit. This type of word order has an extra cue, the bound morpheme, compared to SVO and OVS. This extra cue has a clear grammatical function in indicating that the first noun is not the subject. Many children in the Netherlands have not recognized this function, and have interpreted OVS sentences as SVO. Bos (1997) found similar results with respect to Moroccan Arabic bilingual children in the Netherlands. In a pseudo-longitudinal design, 2 groups of children aged between 4 and 9 years were subjected to a word order task. The sentences differed between simple and complex ones, in both Moroccan Arabic and Dutch. Testing took place in the Netherlands as well as in Morocco. With respect to Moroccan Arabic, the core group in the Netherlands scored better on SVO than on OVS, while the group in Morocco scored better on OVS than on SVO (Bos, 1997:85). Table 9.10 shows the types of errors made in terms of alternative false answers and totally false answers.

Table 9.10: Errors (%) on the word order categories for grade 1 children in the Netherlands

Error type	SVO	VSO	OVS
Alternative false answers	27	36	38
Totally false answers	7	8	9

Most errors are in the form of alternative false answers, indicating the object as the subject. It looks as if the children have interpreted SVO sentences as OVS, VSO sentences as VOS, and OVS ones as SVO. The processing of the sentences in these ways leads to thinking about other cues or factors that might have influenced the choices of the children. These factors are due to the children's knowledge of the world. In the sentence *dog bites man*, for instance, the first noun *dog* is easily identified as subject, and the second noun *man* as object. This simplicity in the interpretation of the sentence is caused by the fact that both word order (SVO) in English, and animacy (dog as animal), together with the daily experience in relation to the act of *biting*, favour the first noun to be the subject. When the context is reversed, and the given sentence becomes *man bites dog*, there are 2 ways to interpret the sentence. First, on the basis of word order, that the first noun *man* is the subject, while the second noun *dog* is the object. Second, on the basis of animacy (human vs animal) in relation to the verb-action; as such the noun *dog* ends up as subject, and the noun *man* as object. If so, the given SVO sentence is interpreted as OVS. In such conditions, the 2 cues are said to compete, as it is called in the competition model (Bates & MacWhinney, 1989:192). With this in mind, it is likely that the core group children, indicating alternative answers, have used other cues in sentence processing than word order. In this sense, 2 cues could have been used by the children, i.e. animacy as to the contrast between human and animal, and status as to the contrast between father/mother and

son/daughter or between an adult and non-adult. As an illustration, in the sentence *tafunast ttɛarn Malika* (the cow is pushing Malika) with SVO order, the subject is the first noun when reasoning on the basis of word order. Yet, the second noun *Malika* could also be interpreted as subject, when reasoning on the basis of daily experience, i.e. it is the human that normally performs the action of pushing the animal and not reverse.

It has been found that in languages with a variable word order, word order becomes a relatively weak cue for agency. Other cues such as subject-verb agreement or morphological cues are more efficient in sentence interpretation (Su, 2001). De Bot and Montfort (1988:115-117), ranking the order of cue importance for Dutch and Moroccan Arabic, found that word order comes in third position in both languages, after agreement and animacy. They concluded that word order in Dutch and Moroccan Arabic is not a reliable cue in agency determination. Given the fact that Tarifit has also a variable word order, one may deduce that word order is not a reliable cue in this language either.

Favouring one cue at the expense of another does not necessarily relate to the organization of the language in question, but also to the proficiency of the children in question. When proficiency in a language is low, grammatical cues have little meaning. Extra-sentential cues become more important, and thus weigh more. Examples of such cues are daily experience or discourse context. Taking into account that the core group is heterogeneous, diverging between low and high proficiency, it is assumed that the children used different strategies, depending on their language proficiency level.

9.2 Grade 8 children

9.2.1 Task description and data collection procedure

The task of grade 8 children aims at studying the children's ability in the production of sentences with the various word order possibilities within Tarifit, i.e. SVO, OVS, and OVS. The task used is based on 2 major types of questions. The first type is in the form of *what is/did X do(ing)?*, by posing a question about the subject. This question is intended to result in sentences with SVO or VSO order. The second type of question is formulated as *X, what did Y do to him/her?*, by asking about the object. This question is expected to evoke sentences with OVS order.

Each question type has been operationalized in 8 questions, with a total of 16 questions. Table 9.11 presents the sentences used for question type 1, and Table 9.12 the ones used for question type 2. The left column of both tables contains the questions asked to the children. The column in the middle and the one on the right show the expected answers and their word order type.

Table 9.11: Questions of type 1 with SVO and VSO order expectations for grade 8 children

Questions		Expected word order	
		SVO	VSO
1	Min ittegg Ali? *What is Ali doing?*	Ali iccat aɣyul *Ali is hitting the donkey*	Iccat Ali yaɣyul *Is hitting Ali the boy*
2	Min yegga weɣyul? *What did the donkey do?*	Aɣyul ilqef aḥenjir *The donkey bumps into the boy*	Ilqef weɣyul aḥenjir *Bumps the donkey into the boy*
3	Min ittegg uryaz? *What is the man doing?*	Aryaz icerref aḥenjir *The man is tying the boy*	Icerref aryaz aḥenjir *Is tying the man the boy*
4	Min ittegg Farid? *What is Farid doing?*	Farid itjerra aqzin *Farid is pulling the dog*	Itjerra Farid aqzin *Is pulling Farid the dog*
5	Min tegga Malika? *What did Mina do?*	Malika teɣder Aicha *Malika dropped Aicha*	Teɣder Malika Aichaṭ *Dropped Malika Aicha*
6	Min ttegg tḥenjirt? *What is the girl doing?*	Taḥenjirt tɛan tafunast *The girl is pushing the cow*	Tɛan tḥenjirt tafunast *Is pushing the girl the cow*
7	Min ittegg uḥenjir? *What is the boy doing?*	Aḥenjir itḥada muc *The boy is touching the cat*	Itḥada uḥenjir muc *Is touching the boy the cat*
8	Min ttegg Aicha? *What is Aicha doing?*	Aicha tesekker tamɣart *Aicha is waking up the woman*	Tesekker Aicha tamɣart *Waking up Aicha the woman*

Table 9.11 lists the questions used with respect to the first question type. All of them are in 1 form, i.e. *min i/ttegg X/min i/tegga X* (what is X doing/did X do?). 1 of 2 order patterns is expected, i.e. SVO as presented in the column in the middle, or VSO as shown in the right column. The focus of the analysis is uniquely on the word order of the answers given. As such, the contents of the answers do not necessarily have to be conform the expected ones as given in Table 9.11.

Table 9.12: Questions of type 2 with OVS order expectations for grade 8 children

Questions		Expected word order
		OVS
9	Aqzin: min d as igga uḥenjir? *The dog: what did the boy do to it?*	Aqzin iṭfi-it uḥenjir *The dog caught it the boy*
10	Taḥenjirt: min d as igga uḥenjir? *The girl: what did the boy do to her?*	Taḥenjirt iṭṣewwarit uḥenjir *The girl took-her a a picture the boy*
11	Aryaz: min d as iga uḥenjir? *The man: what did the boy do to him?*	Aryaz issekkert uḥenjir *The man woke him up the boy*
12	Aryaz: min d as igga Ali? *The man: what did Ali to do him?*	Aryaz: iɣedrit Ali *The man dropped-him Ali*
13	Farid: min d as igga Ali? *Farid: what did Ali do to him?*	Farid isit Ali *Farid carried-him Ali*
14	Tafunast: min d as ttegg ṭumubin? *The cow: what is the car doing to it?*	Tafunast tjarrit ṭṭumubin *The cow is pulling it the car*
15	Aicha: min d as tegga Malika? *Aicha: what did Malika do to her?*	Aicha teṭṭfit Malika *Aicha: caught her Malika*
16	Takarrasut: min d as ittegg uḥenjir? *The cart: what is the child doing to it?*	Takarrust iɛedrit uḥenjir *The cart is repairing it the boy*

The second question type is formulated as *X, min d as igga Y?* (X, what did Y to him/her?). Table 9.12 shows the set of questions belonging to this question type. There

are 8 questions in total. These questions differ from the previous ones, in that the object is the focus of the question. Hence the object is topicalized, and brought to the initial position of the question. The answers are expected to have OVS order, i.e. beginning with the object. The questions are listed in the left column, and the expected answers in the right one. Similar to the questions before, it is the word order pattern of the answers given which counts, and not the contents.

The task was conducted as a productive task with a picture book. The child sees the picture and hears the corresponding question. S/he has to answer the question on the basis of what s/he sees in the picture. For example, the child hears the question *min itteg uryaz?* (what is the man doing?), and sees a picture with a man running after a bus. The expected answer is *aryaz ittazzel (awarni ṭṭubis)* (the man is running (after the bus)). The child could also answer with *ṭṭubis yeggur d uryaz ittazel* (the bus is riding and the man is running), or with *iruḥ ṭṭubis x weryaz* (left the bus without the man/the bus left without the man). All of these answers are expected and accepted. The first and the second answer have the same SVO order, while the third answer has VSO order.

9.2.2 Data analysis

The scoring of the answers is not done in terms of correct and false because the expected word orders are relative. As such, the answers given are listed in the word orders detected for each category, i.e. in terms of SVO, VSO, OVS or other, if any. A comparison of the word orders of the core group in the Netherlands with those of the reference group in Morocco will enable us to make judgements about the results of the core group. Answers without an explicit subject in the form of a pro-drop sentence were not counted, because it is not possible to place the subject either before or after the verb. The answers of the core group in the Netherlands were scored on paper and recorded on audiotape. Those of the group in Morocco were written on paper only.

The overall scores for each question type are presented in Table 9.13, followed by the answers obtained for questions of type 1 in Table 9.14, and the answers for questions of type 2 in Table 9.15.

Table 9.13: Results (%) on questions of the word order task construction for grade 8 children

Grade 8 children	Questions of type 1			Questions of type 2		
	SVO	VSO	OVS	SVO	VSO	OVS
Core group	97	1	2	67	1	33
Reference group	89	–	11	37	1	63

As to type 1 questions, the answers of the core group and the reference group were in conformity with the respective word orders. With few exceptions, all answers had SVO

order. Very few answers had VSO or OVS order. The absence of answers in VSO order was expected for both groups.

With respect to type 2 questions, the 2 groups appeared to differ with respect to word orders given. The core group produced 67% of the answers in SVO order, 32% in OVS, and almost none in VSO. The reference group on its part produced 37% of the answers in SVO order, 63% in OVS, and none in VSO order. While the 2 groups produced no answers in VSO order, they behaved mirrorlike on the other orders. Two thirds of the children of the core group produced sentences in SVO order, and two thirds of the children of the reference group produced sentences in OVS order.

Table 9.14: Results (%) on questions of type 1 for grade 8 children (CG: core group; RG: reference group)

Questions		SVO		VSO		OVS	
		CG	RG	CG	RG	CG	RG
1	Min itteg Ali? *What is Ali doing?*	100	100	–	–	–	–
2	Min yegga aɣyul? *What did the donkey do?*	96	86	–	–	4	14
3	Min itteg uryaz? *What is the man doing?*	89	100	4	–	7	–
4	Min ittegg Farid? *What is Farid doing?*	100	100	–	–	–	–
5	Min tegga Malika *What did Mina do?*	96	63	4	–	–	37
6	Min ttegg ṯhenjirt? *What is the girl doing?*	100	62	–	–	–	38
7	Min ittegg uḥenjir? *What is the boy doing?*	100	100	–	–	–	–
8	Min ttegg Aicha? *What is Aicha doing?*	100	100	–	–	–	–

For both groups, nearly all answers were in SVO order. Many answers were for 100% as SVO. Very few ones were as VSO, given by the core group in the Netherlands. More answers were in VSO order, given by the reference group in Morocco. 2 answers had VSO order, and 3 questions got answers with OVS order, with 14%, 37%, and 38% respectively.

The fact that there was hardly any answer in VSO order leads one to wonder about the reason for this, taking into account that Tarifit is considered to be a VSO language. One reason could be due to the way the question was asked, i.e. *what is X doing?*, asking explicitly about the subject, and thus the answers started with the subject.

Table 9.15: Results (%) on questions of type 2 for grade 8 children (CG: core group; RG: reference group)

Questions		SVO		VSO		OVS	
		CG	RG	CG	RG	CG	RG
9	Aqzin: min d as igga uḥenjir? *The dog: what did the boy do to it?*	61	17	–	–	39	83
10	Taḥenjirt: min d as igga Ali? *The girl: what did the boy do to her?*	85	46	–	–	15	54
11	Aryaz: min d as ittegg uḥenjir? *The man: what is the boy doing to him?*	70	34	–	16	30	50
12	Aryaz: min d as igga Ali? *The man: What did Ali do to him?*	67	67	–	–	33	33
13	Farid: min d as igga Ali? *Farid: what did Ali do to him?*	75	50	–	–	25	50
14	Tafunast: min d as ttegg ṭumubin? *The cow: what is the car doing to it?*	59	27	–	9	41	64
15	Aicha: min d as tegga Malika? *Aicha: what did Malika do to her?*	68	46	4	–	28	56
16	Takarrasut: min d as ittegg uḥenjir? *The cart: what is the child doing to it?*	71	9	–	–	25	91

The answers to questions of type 2 were distributed between SVO and OVS orders, with very few answers in VSO. Most of the answers of the core group had VSO order, varying between 59% for question 14, and 85% for question 10. Answers with OVS order were less, varying between 15% and 41%. The reference group gave more answers in OVS order, varying between 33% as the least for question 12 and 83% as the most for question 9. Exceptions were questions 12 and 13, scoring more answers in SVO order, with 67% and 50% respectively. Sentences in VSO order occurred only rarely, i.e. once for the core group and 6 times for the reference group. Unexpectedly, 1 child from the core group answered to the last question in VOS order, i.e. *iɛeddel tkarrut aḥenjir* (is-repairing the cart the boy/the boy is repairing the cart).

9.2.3 Conclusions and discussion

The task of word order construction for grade 8 children aimed at getting insight into the children's ability to produce different word orders, in conformity with the possibilities in Tarifit in terms of SVO, VSO, and OVS. Questions of type 1, in the form of *what is X doing/did X do?*, were expected to result more in answers with SVO and/or VSO order. The answers given were predominantly in SVO order. This holds true for both groups in the Netherlands and in Morocco.

The use of SVO order by the core group could not directly be linked to the influence of Dutch, because the reference group in Morocco shows the same tendency. The use of SVO order seems to be intrinsic to Tarifit language itself. El Aissati (1997) found similar outcomes in his research on language loss of Moroccan Arabic in the Netherlands by youngsters, aged 13-16. The children in the Netherlands favoured

mostly SVO order, followed by SOV and VSO. The ones in Morocco favoured SVO, followed by VSO and SOV. However, both groups opted for SVO as their first preference.

Yet, the question which rises relates to the absence of the use of VSO order, mainly on the part of the reference group in Morocco, given the fact that Berber is generally considered to be a VSO language. There are many reasons to think about in this respect. First, the way questions of type 1 were formulated by explicitly asking about the subject necessitates an answer starting with a subject, thus resulting in SVO order. Second, the use of SVO order and VSO order is context-related, i.e. SVO order is commonly used in contexts such as isolated single sentences as in this task, while VSO order is used more within a stream of sentences. The research of El Aissati (2002) seems to give more ground for this hypothesis. Derived from spontaneous data, El Aissati found that Tarifit speakers in Morocco used SVO order with 58%, and VSO order with 41% of their total set of utterances. The children in the Netherlands produced 73% of their sentences in SVO order, and 27% in VSO order. These results show the inclination of the group in the Netherlands to use more SVO forms rather than VSO forms, while the group in Morocco used both SVO and VSO forms. Third, there is an ongoing process of change taking place in the language structure of Tarifit itself, leading towards favouring SVO at the expense of VSO.

With respect to questions of type 2, the expectations favoured OVS order, because the questions started with the topicalization of the object by putting it in initial position of the question. The scores were distributed between SVO and OVS orders. Most of the answers of the core group in the Netherlands were in SVO order, but still with a large proportion in OVS order, while the answers of the reference group in Morocco showed just the opposite tendency, with more answers in OVS order. In her study on bilingual Moroccan-Arabic/Dutch speaking children in the Netherlands, aged 9-10 year, Bos (1997) found that the bilingual children in the Netherlands performed significantly better on SVO than OVS order, whereas the monolingual children in Morocco did just the opposite. Still, a number of answers of the children in Morocco were in SVO order.

CHAPTER 10

Conclusions and discussion

How do grammatical morphemes develop among Tarifit speaking children? How capable are they in dealing appropriately with the different word order patterns in Tarifit? The study carried out aims at answering these 2 major questions with respect to children in the Netherlands, compared to their peers in Morocco. The subjects in each country are distributed over 2 matching age groups. The younger group consists of children aged 4-5 years, referred to as grade 1 children, and the older group is made up of children aged 12-13 years, referred to as grade 8 children. This distinction between the 2 age groups was based on the school grade of the children in the Netherlands, i.e. children of the first group attend the first grade 1 of primary school, and the ones of the second group grade 8. The 2 groups in the Netherlands are referred to as core groups, and the ones in Morocco as reference groups. The outcomes of the reference groups in Morocco serve as a background against which the achievements of the core groups in the Netherlands are evaluated, judged, and interpreted.

The investigation focusses on the acquisition of morphology and syntax. 5 domains have been dealt with, i.e. 2 domains within the category of nouns involving plural formation and case marking, 2 other ones within the category of verbs represented by gender-number distinction and perfective formation. The last domain deals with syntax, and is concerned with word order construction.

Two tests were developed specifically for this study, i.e. 1 for grade 1 children, and the other one for grade 8 children. Each test is composed of 5 tasks, 1 task for each domain as stated before. The 2 tests were tried out in a pilot study, on the basis of which they were evaluated and adapted for the main study. Design and outcomes of the pilot study have been presented in Chapter 2 and Chapter 3, respectively.

This final chapter is concerned with providing answers to the main research questions stated in Chapter 1. Section 10.1 gives a summary of the results on morphology acquisition, and section 10.2 deals with word order acquisition. Section 10.3 will speculate about language acquisition in a migration context in relation to background characteristics of the children, and will conclude with some perspectives for further research.

10.1 Acquisition of morphological devices

This section goes into the outcomes of the morphology tasks of plural formation, case marking, gender-number distinction, and perfective formation. It presents concise

summaries of the findings, by comparing them with each other and deducing general conclusions.

1 Plural formation

Plural formation in Tarifit is achieved by 2 major affixation processes, i.e. prefixation and suffixation, and in few cases by infixation or stem modification. In the present study, plural was categorised into regular and irregular forms, and distributed over 5 types, depending on the suffix inflection. 2 types for masculine nouns take the suffixes *-en* and *-an* for type 1, and the suffixes *-wen* and *-yen* for type 2. Two other types for feminine nouns take the suffix *-in* for type 3, and the suffixes *-win* and *-tin* for type 4. Type 5 is made up of irregular nouns. Each of the regular types is further split into cases, based on the prefix and/or infix changes nouns submit to, i.e. prefix transformation, prefix adjustment, infixation, or stem modification (see Chapters 1 and 5).

The outcomes of the task revealed a large difference between grade 1 children in Morocco and grade 1 children in the Netherlands. The first group scored 84% correct on the task, while the second one scored only 12% correct. The latter scored the highest on type 1 masculine forms, taking the suffix *-en/-an* with 18%. Irregular forms scored the lowest with 3% correct.

Error analysis shows that the 2 groups differ with respect to the type of errors too. Mistaken answers of the group in Morocco had 1 form, i.e. false plurals due to the use of the inappropriate inflection. They made up 90% of all errors. Errors of the group in the Netherlands had many forms. 58% of the errors were due to giving the singular form as a plural answer, without changing the stem, 28% were in the form of false plurals by not using the appropriate inflection, and 14% had other reasons, such as non-response, the use of a plural form in Arabic or Dutch, or the use of a quantifier with a singular form as *tnayen lkursi* (two chair). The fact that most errors were in the form of the singular raises some speculations as to why. These speculations were amply discussed in section 5.1.3 (Chapter 5). In brief, it is hypothesised that the children gave singular forms as plural, thinking they were indeed plurals, based on a particular reason such as the singular stem looking morphologically like a plural stem, or because of being polysyllabic in contrast to monosyllabic stems, as happened to be the case in the studies of Anisfeld and Tucker (1967) and Köpcke (1998). Yet, neither of these two assumptions seems to be supported by the data at hand. The most common reasoning is that the children were simply unable to retrieve any plural rule. One reason for this inability may be the limited repertoire of nouns the children possess. The acquisition of a morphological rule depends, among other things, on the number of words a learner knows, and on how often s/he makes use of that rule (Ellis, 1999). The more words that instantiate a specific rule are acquired, the larger the chance that the rule is extracted.

Furthermore, the 2 groups differ with respect to the errors due to false plurals. For the core group in the Netherlands, false plurals given had 2 sources of errors. The first source occurred at the level of affixation processing. The children totally ignored the prefixation process, and focussed on the suffixation process only. As such they kept the initials of the stems unchanged, and tried to modify the stem at the level of the suffix. This implies first and foremost that they have not yet conceptualised the role of prefixation in plural formation in Tarifit. The second source of errors was the choice of inflections. The core group children used a zero-inflection at the prefix level, and an inappropriate inflection at the suffix level. The suffix *-en*, for masculine nouns, was mostly overgeneralised to all types, even with feminine forms. As to the reference group in Morocco, they were aware of the two affixation processes of prefixation and suffixation, and thus modified the stem at both the prefix and suffix levels. There were hardly any inflection errors at the prefix level. Errors of the children were due to the choice of the inappropriate inflections at the suffix level only.

With respect to grade 8 children, the reference group scored 99% correct on the plural formation task, while the core group scored 50% correct. The core group scored the best with respect to the masculine form *i-en* and the feminine form *i-in*. The relatively successful acquisition of these forms might be related to the large number of Tarifit words that make use of these rules.

Errors of the core group were varied. 60% were caused by ignoring the prefixation process at all, thus applying zero-inflection at the initial of the stem; in 34% of these cases the suffix was correctly adjusted, and in the other 26% of cases the stem was incorrectly suffixed. The other 40% of the errors were due to mis-inflections at the suffix level, while using the correct prefix. The inflection *-en* was the most over-generalised suffix, including with feminine nouns. No cases were witnessed in which the suffix was kept unchanged, while the prefix was modified.

Grade 1 and grade 8 children show two major commonalities. The first commonality concerns their ignorance of the prefixation process. This fact shows that the prefixation process remains a challenging task even for older children. This is true in spite of the fact that the inflections involved in the prefixation process are quantitatively and qualitatively simple, i.e. the change of *a-* into *i-*, or just the insertion of *i-*. Suffix processing was acquired from an earlier age, at least by the age of grade 1 children.

Problems at the suffix level were caused by mis-inflections. The set of possible suffix inflections in Tarifit is large in number. The suffix *-en* was widely used by both grade 1 and grade 8 children in the Netherlands. This suffix appears to be the default rule in Tarifit for masculine forms; it is moreover the most common plural morpheme in Dutch.

This leads to a general conclusion. The acquisition of the two processes of prefixation and suffixation does not have to do with the particular type of inflection involved in the affixation process itself, but rather with other factors. These can be

internal factors related to the nature of each affixation process, i.e. suffixes are generally speaking easier to acquire than prefixes because of their saliency in final position, and/or external factors, such as the influence of Dutch in this case, in which plural formation is achieved by means of suffixation only.

2 Case marking

Nouns in Tarifit have a free state (neutral form), and a construct form depending on the context of occurrence of the noun, i.e. after prepositions and after verbs of which the noun itself is the subject (VS). Changes are brought to the initial of the stem by various inflectional means, such as *u-*, *y-*, *wa-*, and *we-* for masculine nouns, or by the deletion of the initial vowel for feminine nouns. These changes take place at the level of the prefix only (see Chapters 1 and 6). The task for grade 1 children examined the use of the construct state when the noun occurs after a preposition.

Grade 1 children in Morocco scored 67% correct on the task, with three errors only. The core group in the Netherlands scored 11% correct. Correct answers were limited to a few ones. There was no difference in this respect between masculine and feminine nouns. Nearly all mistaken answers of the core group were due to using the free state form, i.e. without changing the form of the noun at all. The general conclusion is that the children do not seem to be aware of the difference between the free state and the construct state yet, and the necessity of using the construct state after prepositions.

The task of case marking for grade 8 children focussed on 2 contexts of occurrence of the construct state, i.e. when the noun occurs after a preposition, and when it occurs after a verb. The reference group scored 89% correct on the task, while the core group scored 36%. There were no differences in the scores between nouns occurring after prepositions and nouns occurring after verbs. Errors of the core group were due to the use of the free state form. There were hardly any false answers in the construct form, caused by using the inappropriate change. The core group experienced more difficulties with feminine nouns. In Tarifit, masculine and feminine nouns differ morphologically from each other. Masculine nouns have a (V)-stem (V: vowel) structure, and thus begin with the vowel subject to change in the construct state or with a consonant, while feminine nouns begin with the feminine marker *t-*, followed by the vowel subject to modification, resulting in a t-V-stem structure. The fact that the change with respect to feminine nouns takes place inside the noun, and not at the beginning as in masculine nouns, might have prevented the children from realising this change.

Both grade 1 and grade 8 children produced mistaken answers in the free form. The absence of construct forms evokes that the children master only the free form of nouns. The non-acquisition of the construct form could be justified by 2 major reasons, as discussed in sections 6.1.3 and 6.2.3 of Chapter 6. The first reason is grammatical complexity, i.e. the free state form is the default form, while the construct state is the derivational form. As such, nouns are acquired in the free state form first,

while the construct state form is acquired later, provided conditions are favourable. The second reason is semantic saliency, i.e. the construct state form does not have a conceptual referent in the real world which makes it different from the free state form. As an illustration, the difference between singular and plural forms of nouns is concretely represented in the world around, in terms of one entity versus more than 1 entity. A speaker is thus required to make himself/herself explicit when talking about 1 or more entities. In case marking, the difference between the 2 forms is not semantic, but purely grammatical. This fact makes it more demanding for children to perceive the existence of the construct state form. Apparently, the children in a migration context do not happen to acquire it at all. The constant use of the free form has been reported in a number of studies, in particular by Boukous (1982) in Morocco, De Ruiter (1989) in the Netherlands, and Bouhjar (1993) and Hassani (2001) in Belgium.

3 Gender-number distinction

The task for grade 1 children is concerned with subject-verb agreement with respect to gender (masculine/feminine) and number (singular/plural) in the third person form. Agreement takes place at the prefix level for the singular by means of *i-* and *t-*; and at the level of the suffix for the plural by means of *-en* and *-en-t* for masculine and feminine, respectively (see Chapters 1 and 7). This task was conducted as receptive, with the help of a picture book. The testing procedure is explained in section 7.1.1 of Chapter 7.

The core group in the Netherlands scored 42% correct on the task. The reference group in Morocco scored much higher with 87% correct. The scores of the core group in the Netherlands showed a slight difference between singular and plural forms. Errors with respect to singular forms occurred both at the level of number, by indicating plurals instead of singulars, and at the level of gender, by indicating the opposite gender form. For masculine forms, this type of gender errors was witnessed in relation to the two masculine items beginning with *t-* inflection of the present tense, i.e. *tt-irar-en* (they are playing) and *tt-run* (they are crying). The children seemed to confuse the tense inflection with the gender marker, and thus hypothesized the former as referring to feminine. For the plural forms, the opposite took place, by referring to feminine forms as masculine ones. Masculine plural forms take the suffix *-en*, while plural feminine ones take the complex suffix *-en-t*. Both forms have *-en* as a common marker of plurality. The difference between the 2 gender forms is the additional suffix *-t*, the marker of feminine. The fact that feminine verbs are interpreted the same as masculine ones is linked to the children's interpretation of the last inflection *-t*. Two hypotheses could be highlighted at this respect. The first one is that the feminine marker at the end, occurring after the nasal, is pronounced softly, a fact which might have been hard for grade 1 children to perceive, leading them to think about a masculine form as stem-*en*. The second hypothesis is that the masculine form is the

default rule, which happens to be overgeneralised on feminine forms until the feminine inflection is acquired (see also Bartning, 2000).

The task of grade 8 children was made up of 2 parts. Part 1 deals with subject-verb agreement at the levels of gender and number, and part 2 with subject-verb non-agreement, neither at the level of gender nor number. This occurs in complex sentences in the form of *d Hassan ig illan din* (it is Hassan who is there), by using the participle form of the verb as *i-lla-n*, taking the form of *i*-stem-*n*. The participle is used with all persons and gender forms. The task was a productive one.

The scores of grade 8 children in the Netherlands were better in the first part of gender-number agreement, achieving 71% correct, than in the second part of non-agreement with 50% correct. The reference group in Morocco scored 99% and 96% correct, respectively. For the first part with agreement, the core group in the Netherlands scored 100% correct on singulars, in both masculine and feminine forms. Agreement between subject and verb at these 2 levels involves the prefixation of *i-* for masculine, and *t-* for feminine.

The errors of the core group emerged mainly with the plural feminine suffix *-en-t*, more specifically in relation to the gender morpheme *-t*. The children suffixed the stems correctly for number with *-en*, but missed *-t* for feminine, resulting in answers in the form of stem-*en*, similar to the third person plural masculine. This same phenomenon was witnessed in the studies of Boukous (1982) in Morocco, and Bouhjar (1993) in Belgium. The masculine default rule is still used instead of the feminine rule. Generally speaking, one may assume that the plural masculine form has replaced the feminine form in the migration context. In the second part of non-agreement, errors were due to the application of subject-verb agreement. The children did not perceive that the context required the use of the participle form, and thus kept thinking in terms of the default strategy of verb-subject agreement.

In sum, the gender-number distinction task shows that the children in the Netherlands have mastered singular gender inflections for both gender forms, and the plural masculine form. Problems are still persisting with respect to the plural feminine inflection and the participle form.

4 Perfective formation

The verbs used in this task were split up into three categories, based on the changes they undergo in the perfective. Category 1 includes verbs subject to prefixation, pre-suffixation, and infixation. Category 2 contains verbs subject to suffixation. Verbs of category 3 have the same stem in the aorist as well as in the perfective, i.e. they do not submit to any change. The task for grade 1 children deals with the use of the perfective in affirmative sentences.

The scores of grade 1 children in the Netherlands were very low with 22% correct. The first category scored the lowest with 12% correct, while categories 2 and 3 got more or less the same percentage with 29% and 30% correct, respectively. This shows

that verbs submitting to suffixation or verbs without change were less difficult to handle than verbs submitting to prefixation, pre-suffixation or infixation. Grade 1 children in Morocco scored 94% correct on the task. There were hardly any differences in performance between the 3 different verb categories.

Errors of the core group were mostly due to the use of pragmatic expressions, such as *ṣafi* (that was it) and *kemmel* (finished), to indicate that the action was finished. The use of such pragmatic devices evokes the absence of any grammatical rule or strategy for perfective formation. The use of pragmatic devices, such as adverbs, calendric expressions or sequentiality, in order to express temporality has been witnessed among monolingual children in their very early age. This stage is prior to either aspect or tense (Schumann, 1987:38). The same strategies were witnessed among adults learning a second language (Starren, 2001). With this in mind, one may conclude that grade 1 children, using such pragmatic means, are still in that early stage.

The task for grade 8 children had 2 parts. The first one was concerned with the perfective in the affirmative form, and the second part with the perfective in the negative form. In the affirmative form, moving form the aorist form to the affirmative perfective involves changes at the levels of prefixation, infixation (stem alteration), and/or suffixation, as mentioned before with respect to grade 1 children. In the negative form, the negative perfective is marked by the transformation of the last vowel in the stem into *-i-*, as in *i-cc-a* (he ate) in the affirmative form becoming *ur i-cc-i* (he did not eat) in the negative form, as explained in section 8.2.1 of Chapter 8.

The core group in the Netherlands scored 72% correct on affirmative forms, and 28% correct on negative ones. The reference group in Morocco scored 99% correct on both forms. The lowest scores of the core group occurred with respect to verbs submitting to prefixation, such as *a-ley* (get on) in the aorist form becoming *u-ley* in the perfect form, or verbs subject to pre-suffixation as *arji* (dream) in the aorist form becoming *u-rj-a* in the perfect affirmative form and *ur u-rj-i* in the perfect negative form. Verbs submitting to suffixation like *ḍer/ḍr-a* (get off) scored the best. In the perfect negative form, the children used the same grammatical tools as in the affirmative form. They did not realise the difference between the affirmative and the negative perfective form, and happened to generalise the use of the affirmative form on the negative form context too.

Table 10.1 gives an overview of correct scores on the four tasks.The 3 tasks of plural formation, case marking, and perfective were conducted as productive ones, while the task of gender-number distinction was conducted as a receptive task.

Table 10.1: Correct scores (%) on the four morphology tasks for grade 1 children

Grade 1 children	Plural formation	Case marking	Gender-number distinction	Perfective formation
Core group	12	11	42	22
Reference group	84	67	87	94

Table 10.1 shows strong differences in overall performance between the core group in the Netherlands and the reference group in Morocco. The core group realised low scores on all tasks, while the reference group got much higher scores. Children in the Netherlands scored the highest on the receptive gender-number distinction task, and the lowest on the productive case marking task.

These findings confirm the difficulty most children in the Netherlands experience with the inflectional system of Tarifit. This becomes apparent in their reliance on the use of singular forms for plural formation, the free state form instead of the construct one for case marking, the recourse to pragmatic devices in dealing with perfective formation, and to a lesser extent, in their choice of inflections for gender-number distinction.

Table 10.2: Correct scores (%) on the four morphological tasks for grade 8 children

Grade 8 children	Plural formation	Case marking	Gender-number distinction		Perfective formation	
			With-Agreement	Non-agreement	Affirmative form	Negative form
Core group	50	36	71	50	72	28
Reference group	99	89	99	96	99	99

First of all, the scores show the top performance of the reference group for all tasks. The achievements of the core group were variable, balancing between 28% as the lowest score for negative perfective formation and 72% as the highest one for affirmative perfective formation. Difficulties faced by the core group concern prefixation processing. The children kept the initial of the stem unchanged, such as in the plural task, case marking, and perfective affirmative, for verbs undergoing prefix alteration. Many children focussed on the suffixation process when modifying the stem. Other problems concern mischoice of the right inflections for all tasks. Yet, a number of children did manage to acquire the inflectional system of Tarifit, and to match their peers in Morocco.

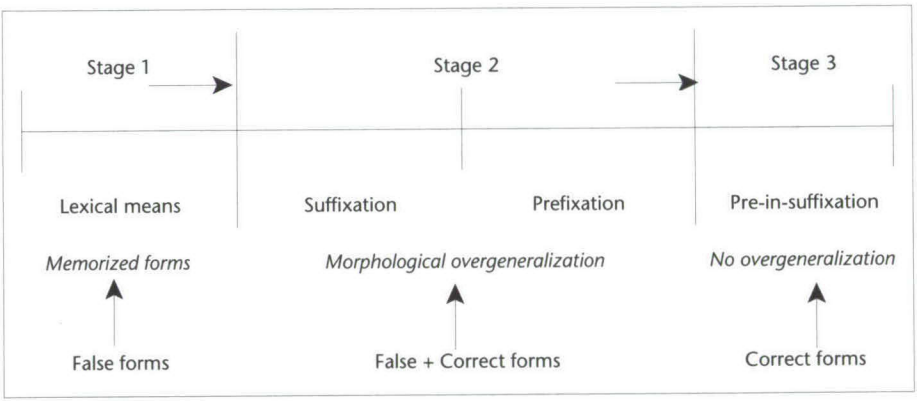
The common errors between grade 1 and grade 8 children in the Netherlands were of 2 types. The first type concerns the ignorance of prefixation. The second type concerns the failure in third person feminine plural marking with respect to the gender-number distinction task.

In answering the first research question in Chapter 1 on the acquisition of morphological devices, grade 1 children in the Netherlands appear to be a heterogeneous group. 3 subgroups could be distinguished. The first group includes the few children who have acquired the morphological system of Tarifit, and performed in the same way as the children in Morocco did. The second group consists of children who did reach the stage of morphological devices, i.e. whose answers were marked by the

modification of the stem at both the prefix and the suffix level, or at least at the suffix level only. The third group includes the majority of the children, who did not show any productivity at the morphological level. They relied on lexical means, and are therefore said to be in the lexical stage.

As to grade 8 children of the core group, many of them managed to achieve more or less the same level as their peers in Morocco. Still, their proficiency is marked by ups and downs, depending on the types of morphological devices. They experienced particular difficulty with case marking, the verb participle form for the gender-number distinction task, and the negative form of the perfective formation. Similar to grade 1 children, many grade 8 children failed in prefixation processing by keeping the stem unchanged at this level. The general pattern of morphological acquisition by the children in the Netherlands is represented in Figure 10.1.

Figure 10.1: Stages in the acquisition of morphological devices in Tarifit



Three stages are distinguished. Stage 1 is referred to as the lexical stage, marked by the absence of any morphological devices, and dominated by the use of lexical means. Stage 2 represents the initial morphological stage, characterized in particular by default rules which become overgeneralised. Morphological applications at this stage result in both correct and incorrect forms. The third stage is the final morphological stage, marked by the correct use of morphological devices such as prefixation, infixation and/or suffixation, as well as by the correct morphological inflections. Over-generalization strategies disappear in this third stage.

When applying this developmental schema on Tarifit speaking children in the Netherlands, the majority of grade 1 children were in the first stage. A small number reached the second stage, spread over the first part of suffixation in which they ignored the prefixation process, and the second part in which both prefixation and suffixation devices were used. Very few children reached stage 3, and succeeded in matching their

peers in Morocco. Grade 8 children in the Netherlands were in the morphological stage, and were distributed over stage 2 and stage 3.

10.2 Acquisition of word order devices

The acquisition of word order devices was studied by means of 2 tasks, i.e. a receptive task for grade 1 children, and a productive task for grade 8 children. Table 10.3 presents the correct scores of grade 1 children on the 3 word order types of SVO, VSO, and OVS.

Table 10.3: Correct scores (%) on the word order task for grade 1 children

Grade 1 children	SVO	VSO	OVS
Core group	66	56	53
Reference group	83	78	93

Table 10.3 shows that the correct scores of grade 1 children are much in favour of the reference group. The core group scored best with respect to SVO sentences, followed by VSO and OVS sentences. The reference group in Morocco scored best with respect to OVS order, followed by SVO and VSO.

The most common errors of the core group were due to indicating the object or the second noun in the sentence, appearing in the last position, as being the subject, i.e. SVO and VSO orders were interpreted as OVS and VOS, respectively. The situation is quite the opposite with respect to OVS sentences, interpreted as SVO by assigning the subject function to the first noun. In doing so, the children missed the function of the bound morpheme *-t*, suffixed to the verb, referring to the noun in the initial position, and indicating that it is the object. This has been interpreted as an indication of lack of grammatical knowledge about the function of the bound morpheme in OVS sentences. Given the different ways of interpreting SVO and VSO sentences on the one hand, and OVS sentences on the other hand, it is likely that grade 1 children in the Netherlands have used other cues than word order for their interpretation of the sentences. 2 cues are hypothesized. The first cue is animacy of the subject and object, with respect to the difference between human and animal. As an illustration, in the sentence *tafunast ttɛarn Malika* (the cow is pushing Malika) with SVO order, the subject of the sentence is the first noun when reasoning on the basis of word order. Yet, the second noun *Malika,* which is an object, could also be interpreted as subject when reasoning in terms of animacy (human) in its relation to the action of pushing in daily experience, i.e. it is the human that normally performs the action of pushing the animal rather than otherwise. If the last reasoning is applied, it is not surprising that the children interpret noun-objects of the sentences as subject. The second cue is status, referring to contrast between father/mother and son/daughter or between an

adult/non-adult. A sentence like *Farid isi babas* (Farid is carrying his father), is interpreted as SVO on the basis of word order, with Farid as subject. Yet, the sentence could be interpreted also as OVS, on the basis of status (father versus child) in relation to the action of the verb (carrying), i.e. it is likely the father who carries the child (Farid). In languages with a variable word order such as Tarifit, word order is not found to be the first reliable cue in sentence interpretation. Rather, other cues such as agreement and animacy are more efficient. This issue is broadly treated in section 9.1.3 of Chapter 9.

The word order construction task for grade 8 children was based on 2 types of questions, used to trigger 2 different word order types. Questions of type 1, formulated as *min itteg X?* (what is X doing?), were expected to elicit SVO and/or VSO orders. Questions of type 2, formulated as *X, min d as igga Y?* (X, what did Y do to him/her/it?), were expected to result in OVS orders. The answers obtained were not categorised in terms of correct or not correct, but rather classified according to their word order, and evaluated on the basis of the outcomes of the reference group in Morocco. Table 10.4 presents the results of the word order task for grade 8 children.

Table 10.4: Correct scores (%) on the word order task for grade 8 children

Questions	Type 1: SVO/VSO as expected order			Type 2: OVS as expected order		
Grade 8 children	SVO	VSO	OVS	SVO	VSO	OVS
Core group	97	1	2	67	1	32
Reference group	89	–	11	37	1	62

The results obtained show a slight difference between the 2 groups with respect to questions of type 1. Nearly all children of both groups gave answers in SVO. Differences between the 2 groups emerged with respect to questions of type 2. 32% of the core group children answered by using OVS order, while a majority of 67% used SVO order. The reference group did just the opposite with the majority of answers in OVS order, and to a lesser extent in SVO order. OVS order is more demanding grammatically, and requires the suffixation of *-t* to the verb. This was noticed during the task conduction, when many children started their sentences with the object, before changing their mind and restarting with the subject. With respect to VSO order, both groups produced hardly any sentences of this type. This outcome raises the question why, particularly for the children in Morocco, given the fact that Tarifit as a Berber language is considered as VSO language. One major reason to state here, among other ones stated in section 9.2.3 (Chapter 9), is that VSO order is not freely used in all contexts, but that it is rather context-bounded, commonly produced within a stream of sentences when events are sequenced in a quick tempo, among other conditions (El Aissati, 2001).

In answering the second research question about word order acquisition, more than half of the grade 1 children in the Netherlands managed to realise the difference

between the 3 word order types in Tarifit, i.e. between SVO, VSO, and OVS. At the same time, many of them were not able to distinguish between the 3 word order types, sometimes by indicating the last noun as being the subject as in the case of SVO and VSO sentences, and other times by indicating the first noun as being the subject in the case of OVS sentences. With respect to grade 8 children, the majority of the core group in the Netherlands matched closely the reference group in their word order type productions, mainly with respect to SVO and VSO, but not in the case of OVS.

10.3 Language acquisition in context

This section deals with the linkage between the achievements of the children of the 2 core groups in the Netherlands and their sociolinguistic background. The results of each group show a large discrepancy between the individual scores of grade 1 and grade 8 children. Arguments for the explanation of these discrepancies are looked for in the background of each child. Background variables have been dealt with in Chapter 4 and are divided into 3 types, i.e. personal, educational, and linguistic variables.

The results of the language tasks as presented in the chapters before, reveal that the core groups in the Netherlands are heterogeneous, with individual correct scores varying between 14-51% for grade 1 children, and between 35-81% for grade 8 children. Table 10.5 gives an overview of the individual absolute correct scores of grade 1 children in the Netherlands in descending order, based on the accumulative score across tasks.

Table 10.5: Absolute and accumulative scores on morphosyntactic tasks for grade 1 children in the Netherlands

Child	Plural formation (25 items)	Case marking (9 items)	Gender-number distinction (15 items)	Perfective formation (18 items)	Word order construction (16 items)	Accumulative score (83 items)
1	13	2	5	13	10	43
2	8	–	7	7	12	34
3	8	3	10	5	8	34
4	7	4	10	1	11	33
5	7	1	8	6	10	32
6	2	2	6	11	9	30
7	4	–	8	6	12	30
8	3	1	8	8	9	29
9	4	1	10	2	11	28
10	3	2	6	9	8	28
11	1	2	6	8	10	27
12	1	1	6	8	11	27
13	3	–	5	5	12	25
14	7	4	5	1	8	25
15	1	1	7	3	12	24
16	–	–	8	4	12	24
17	1	–	9	4	9	23
18	3	1	7	3	8	22
19	1	–	4	6	11	22
20	1	–	6	1	12	20
21	3	–	6	1	9	19
22	1	1	6	1	9	18
23	4	–	7	–	7	18
24	2	1	4	6	5	18
25	3	–	6	1	6	16
26	–	–	7	1	8	16
27	1	–	7	–	7	15
28	1	–	4	1	9	15
29	1	–	5	–	7	13
30	1	–	2	1	9	13
31	–	1	3	–	8	12

Table 10.5 shows the wide discrepancy between the scores among grade 1 children, within each task and on the accumulative score. Some scores approach the maximum score as in perfective formation task with 13 items correct out of 18, word order construction task with 12 items correct out of 16, and to a lesser extent gender-number distinction task with 10 items correct out of 15. At the same time, some low scores reached the bottom as in the perfective task. The accumulative total scores vary between 12-43 items correct out of a maximum of 83 items.

Table 10.6 presents the individual absolute correct scores of grade 8 children. The scores on the word order task are not presented, because the scoring of this task was open and not subjected to correct versus non-correct codification, as explained in section 9.2.1 of Chapter 9.

Table 10.6: Absolute and accumulative scores on morphological tasks for grade 8 children in the Netherlands

Child	Plural formation (32 items)	Case marking (19 items)	Gender-number distinction (28 items)	Perfective formation (36 items)	Accumulative score (117 items)
1	26	13	26	30	95
2	23	15	22	25	85
3	20	11	24	26	81
4	24	13	16	22	75
5	19	11	15	26	71
6	18	9	23	17	67
7	22	5	22	17	66
8	24	12	9	21	66
9	14	5	22	24	65
10	20	6	19	20	65
11	18	6	26	14	64
12	18	4	26	15	63
13	14	9	24	14	61
14	16	12	13	19	60
15	15	5	25	15	60
16	9	6	25	19	59
17	17	7	14	16	54
18	17	4	15	18	54
19	11	3	21	15	50
20	13	7	12	16	48
21	12	4	19	12	47
22	14	2	15	15	46
23	11	9	10	14	44
24	14	4	12	13	43
25	15	4	8	15	42
26	9	6	12	15	42

The individual performance of grade 8 children shows that many of them scored close to the maximum, i.e. 26 items correct out of 32 for plural formation task, 13 items correct out of 19 for case marking task, 26 items correct out of 28 for gender-number distinction task, and 30 out of 36 for perfective formation task. At the same time, there were also very low scores, ranging between 6 and 12 items correct. The accumulative total scores vary between a high score of 95 items correct and a low score of 42 correct out of 117 items.

One major question emerges with respect to these outcomes, i.e. why did some children score high and others low? In order to answer this question, a linkage is made between the proficiency of the children in Tarifit and a number of background factors,

referred to as dependent and independent variables, respectively. The dependent variable in the present study is the sum-up of the total scores of all tasks. For grade 1 children, this includes plural formation, case marking, gender-number distinction, perfective formation, and word order construction. As to grade 8 children, the proficiency variable includes four tasks, excluding the word order task. There are 2 reasons for choosing the accumulative scores of Tarifit proficiency as dependent variable, instead of considering each task by itself. First, the individual scores of many children on the various tasks were very low, and thus variation among them was not large enough to expect any correlations between task outcomes and background factors. By summing up the scores of the various tasks into one accumulative score, variation between the individual scores becomes larger and more apparent. Second, the study was not directed specifically towards the investigation of a relationship between the acquisition of specific morphosyntactic devices and specific background factors. If any correlations would be found between children's choice of Tarifit in their interaction with parents and the outcomes of the plural formation task for instance, and not with the outcomes of other tasks, this would be difficult to interpret. Background information of the children was presented in Chapter 4, and is distributed over 3 types, i.e. personal factors, school factors, and language factors.

1 Personal factors

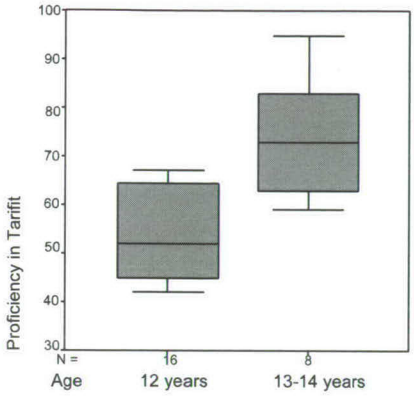
Personal factors include age, gender, and birth country of the children. The last factor was restricted to children of grade 8 only. Children of grade 1 were born in the Netherlands, while some of the ones of grade 8 were born in Morocco and others in the Netherlands.

With respect to grade 1 children, the factor of age can be crucial, in the sense that the ones aged 4 years are less proficient than the ones aged 6 years. This, however, is not always true. The factor of gender has been proven to be a distinctive factor in many studies (cf. Wodak & Benke, 1997:127-150). In the same way, birth country is not necessarily supposed to make a difference between the children born in Morocco and the ones born in the Netherlands. This depends in fact on duration of stay in the Netherlands, i.e. the ones living for a shorter period in the Netherlands would speak better Tarifit than the ones living for a longer period.

The analysis with respect to these factors reveals that none of grade 1 children's background factors happens to have a significant relationship with language proficiency. As far as grade 8 children is concerned, a significant correlation was found between proficiency in Tarifit and age, with a coefficient of .62** ($p < .001$). The difference was found between the children aged 12 years (16), scoring 46% correct, and the ones aged 13-14 (8), achieving 63%. This significant correlation between age and proficiency is not to be taken as a direct one, and may be influenced by other factors, either partially or totally. When controlling for other factors in terms of birth country, period of stay in the Netherlands, and rank among siblings (as the eldest or not), the

correlation between proficiency in Tarifit and age remained always significant, except when controlling for length of stay in the Netherlands among the ones who have been born in Morocco, with a coefficient of .93 and a p-value of .07. When correlating language proficiency directly with length of stay in the Netherlands, the correlation was not significant either. This means that the factor of length of stay is an interactive one, i.e. that combination of age and duration of stay factors influenced the proficiency of the children in Tarifit.

Figure 10.2: Box plot for proficiency in Tarifit and age of grade 8 children in the Netherlands



As to birth country between Morocco or the Netherlands, 9 children of grade 8 were born in Morocco and 15 ones in the Netherlands. No significant relationships were found between proficiency in Tarifit and country of birth. There was a tendency in favour of the ones born in Morocco, who scored 56% correct, as opposed to the ones born in the Netherlands with 49% correct. However, the means of the 2 groups were not significantly different from each other (t-value: 1.32; p-value: .20).

2 School factors

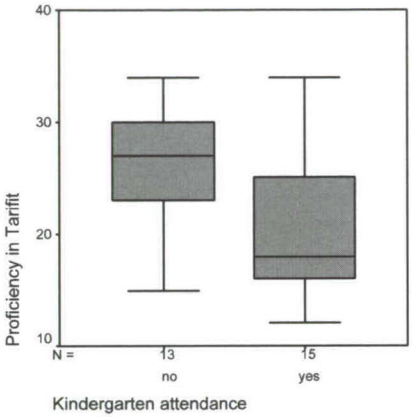
School factors included in the analysis concern attendance of kindergarten, duration of attendance, length of stay at school (for grade 1 children only), and proficiency of the parents in Dutch. The role of the school factors related to the children lies in the importance of Dutch at school as the language of instruction, both in kindergarten and at primary school; children who have been longer at school, have also been exposed to Dutch for a longer period of time.

In the same way, the proficiency of the parents in Dutch may make a difference between the children with respect to Tarifit, in that parents with a good proficiency in Dutch may opt for Dutch in interaction with their children, which goes at the expense of Tarifit. Otherwise said, the better the parents are in Dutch, the higher is the probability of their use of Dutch with their children, and the lesser their use of

Tarifit. This will lead to a low input of Tarifit for the children, resulting in low proficiency in this language.

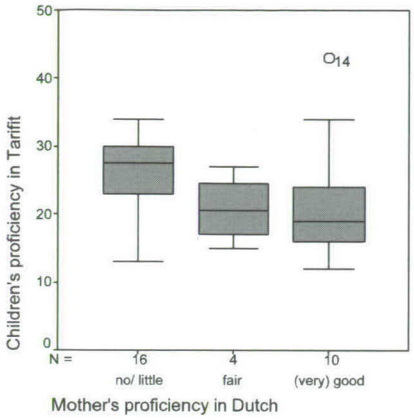
Two factors appear to have a significant relation with the children's proficiency in Tarifit. The first factor is kindergarten attendance by grade 1 children. Children who have not been in kindergarten scored better, with a mean of 26 items correct (31%) than the ones who did, who scored 20 items correct (24%). The 2 means were significantly different from each other, with a t-value of 2.58, and a p-value of .01. Figure 10.3 shows the spread of the scores of the children who attended kindergarten and the ones who did not.

Figure 10.3: Box plot for proficiency in Tarifit and kindergarten attendance of grade 1 children



The second factor concerns the proficiency of the mothers in Dutch. When the proficiency of the mother was high in Dutch, the proficiency of their children was low in Tarifit. Correlations were significantly negative, with a coefficient of -,44* ($p > .01$). The children whose mothers had no or little proficiency in Dutch scored 31% correct, while the ones whose mothers spoke (very) good Dutch scored 25% correct (Figure 10.4).

Figure 10.4: Box plot for grade 1 children's proficiency in Tarifit and their mothers' proficiency in Dutch

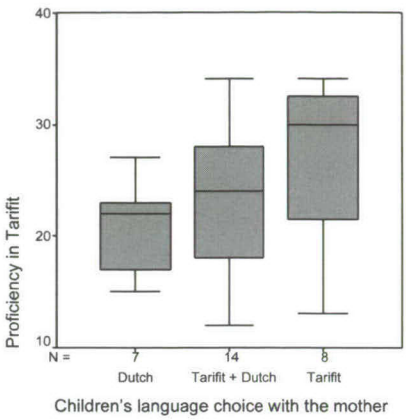


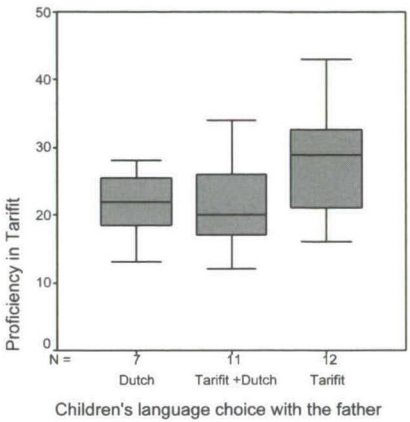
3 Language factors

Language factors include language choice of the children with their parents, siblings, and vice versa. Correlations are expected to be positive between language choice of the children with parents and younger siblings, whose interactions take place mostly in Tarifit, and negative with elder siblings, whose interactions are mostly dominated by Dutch, as has been reported in Chapter 4.

For grade 1 children, significant correlations were found between language choice of the children with the mother (r: .38*; $p < .04$) and with the father (r: .37*; $p < .04$). Children speaking Tarifit with their mother scored 31% correct, the ones using both languages obtained 28%, and the ones speaking Dutch scored 24% correct. Similarly, the children speaking Tarifit with their father scored best with 33%, as opposed to the ones speaking both languages or Dutch only, scoring 26% (Figure 10.5).

Figures 10.5: Box plot for grade 1 children's proficiency in Tarifit and language choice with the parents





With respect to language choice of the parents with their children, no significant correlations were found. All mothers used Tarifit with their children, with the exception of four of them, i.e. 2 of them using both languages and the other 2 Dutch only. Regarding interactions with the father, there were 3 children speaking Dutch.

For grade 8 children, no correlations were found between language choice of the children and their parents. Nearly all children reported to speak Tarifit with both parents. 19 children used Tarifit with their mother and 17 ones with their father, 2 children spoke both Tarifit and Dutch with their mother and 3 ones with their father, and 2 children used Dutch with the mother and 3 ones with the father. No correlations were found between language choice of grade 8 children and their siblings either.

10.4 Perspectives for further research

The present study has afforded answers to the 2 major questions stated at the beginning of this study. At the end, other questions emerge to the surface for the sake of further research. Why is the language proficiency of the children of both groups in the Netherlands shaped as it is? Why are some grammatical aspects acquired before others, while others are not acquired at all, such as case marking or the negative form of the perfective? Why did the children not acquire the prefix *i-* of plural formation, while they did acquire the prefix *i-* of the third person masculine singular in the gender-number distinction task? Does language proficiency of children in Tarifit at the end of primary school in the Netherlands still make progress, but just in a slow rate

or not? What makes the difference in acquiring prefixes, infixes, and suffixes? Is suffixation always acquired indeed before prefixation and infixation? And if so, to what degree is this phenomenon typical for Tarifit or Berber languages at large, or a universal phenomenon?

Other questions relate to the role of background factors in the acquisition of Tarifit in a migration context. This study was not set up in a way to control for all factors that might have an influence on language proficiency of the children in Tarifit. The outcomes revealed so far in section 10.3 represent no more than indications. Significant relationships might be indirect or just spurious, while other ones, which have not been uncovered, might be of real influence in one way or another.

When linking language proficiency to language contact factors, there is a need for deeper investigation of the quantity and quality of the input children really receive. When it is reported that parents often speak Tarifit with their child, how much is actually 'often'? When a child spends the whole day with the mother and few hours per day with the father, is the meaning of 'often' the same with respect to both parents? Besides, what is the quality of the language input children get? Is it an input that keeps feeding the children to develop their language constantly or not? Are the shortcomings of children in some language domains due to deficits or reduced input? At a time when the second generation of the Moroccan community abroad is shifting to a third one, is it possible that the non-acquisition of case marking for instance, is due to an absence of this form in the language of the parents themselves, or the one belonging to the second generation? For broader view of the linguistic situation of the children, one should study the other side of bilingualism, namely Dutch. How do Tarifit and Dutch languages develop? How do the children perform in each of these languages? How do they handle them in their daily life? These are some of many issues that need to be further investigated in order to get a deeper understanding of the fascinating path of language acquisition in migration.

References

Adrar Nieuwsbrief

1987 *Adrar Nieuwsbrief*, 4, 1 & 2. Nijmegen: Vereniging Adrar.

Anestesi, A.

1986 Evolving concepts of test validation. *Annual Review of Psychology*, 37, 1-15.

Anisfeld, M. & G. Tucker

1967 English pluralization rules of six-years old children. *Child Development*, 38, 1201-1217.

Bachman, L.

1990 *Fundamental Considerations in Language Testing*. Oxford: Oxford University Press.

Banhakeia, H.

2001 *Iles inu*. Lkitab 3. Oisterwijk: Dutch University Press.

Bartning, I.

2000 Gender agreement in L2 French: pre-advanced vs advanced learners. *Studia Linguistica*, 54,2, 225-237.

Bates E. & B. MacWhinney,

1989 Functionalist approaches to grammar. In: E. Wanner & E. Gleitman (eds.), *Language acquisition: The state of art*. New York: Cambridge University Press, 173-218.

Boeschoten, R.

1990 *Acquisition of Turkish by immigrant children: a multiple case study of Turkish children in the Netherlands aged 4 to 6*. Ph.D. thesis. Tilburg Univeristy.

Bos, P.

1997 *Development of bilingualism: a study of school-age Moroccan children in the Netherlands*. Studies in Multilingualism, 8. Tilburg: Tilburg University Press.

Bouhjar, A.

1993 *Compétence langagière en langue maternelle et migration: le cas de jeunes marocaines à Bruxelles*. M.A. thesis. Rabat: Université Mohammed V.

Boukous, A.

1982 Le langage Enfantin. *Langues et Littérature*, 1, 7-40.

1995 La langue berbère: maintien et changement. *International Journal of the Sociology of Language*, 112, 9-28.

Bouylmani, A.

1999 *Elements of Berber grammar: Tarifit of Ayt Touzine*. Ph.D. thesis. El Jadida: Chouaïb Doukkali University.

Brown, R.

1973 *A First Language: the Early Stages*. Cambridge, MA: Harvard University Press.

Bybee, J.
1995 Regular morphology and lexicon. *Language and Cognitive Process*, 10, 5, 425-456.
Cadi, K.
1987 *Système verbal rifain: forme et sens linguistique tamazight (Nord-Marocain)*. Paris: SELAF.
1990 *Transitivité et diathèse en tarifit: analyse de quelques relations de dépendences lexicales et syntaxiques*. Thèse de Doctorat d'Etat. Paris: Université de sorbonne Nouvelle-Paris III.
1997 Constance et variabilité syntactiques interdialectales en berbère. *International Journal of the Sociology of Language*, 123, 147-162.
Chami, M.
1979 *Un parler amazigh du Rif marocain. Approche phonologique et morphologique*. Thèse de 3ème cycle. Paris: Université de la Sorbonne-Paris V.
CBS
2003 *Allochtonen in Nederland*. Voorburg/Heerlen: CBS.
Chomsky, N.
1981 *Lectures on government and binding*. Dordrecht: Foris.
1988 *Language and problems of knowledge: the Managua lectures*. Cambridge, Mass: MIT Press.
CITO Toets
1995 *Toets tweetaligheid Marokkaans-Arabisch Nederlands 1-2*. Arnhem: CITO.
Davies, A.
1990 *Principles of language testing*. Oxford: BasilBlackwel.
De Beer, J., H. Kuppers & R. Noodman
1996 Hier travailleurs invités, aujourd'hui citoyens. In: M. Obdeijen & J.J. de Ruiter (eds.), *L'enseignement aux élèves marocains en Europe: journées de réflexion*. Leiden: University of Leiden, 121-162.
De Bot, K. & R. van Montfort
1988 Cue-validity in het Nederlands als eerste en tweede taal. *Tijdschrift voor Taal- en Tekstwetenschap*, 8, 2, 111-120.
De León, L.
1999 Why Tzotzil (Mayan) children prefer verbs over nouns? Input and interaction vs. Cognitive constraints. In: M. Almgrem, A. Barrena, M. Ezeizabarrena, I. Idialzabal & B. MacWhinney (eds.), *Research on Child Language Acquisition*. Sommerville: Cascadilla Press, 948-970.
De Ruiter, J.J.
1989 *Young Moroccans in the Netherlands: an integral approach to their language situation and acquistion*. Ph.D. thesis. Utrecht: University of Utrecht.
1990 La langue berbère aux Pays-Bas. *Le Maroc et la Hollande*. Colloques et Séminaires 8. Rabat: Faculté des Lettres et des Sciences Humaines, 307-315.

Dewaele J. & D. Véronique
2000 Relating gender errors to morphosyntax and lexicon in advanced French interlanguage. *Studia Linguistica*, 54, 2, 213-223.

Dominigez, S.& J. Veenman
2001 Convergentie in de positie van mannen en vrouwen uit allochtone groepen. In: H. Smeets, E. Martens & J. Veenman (eds.), *Jaarboek minderheden 2001.*

Dorit, R. & A. Malenky
2001 Awareness of linear and nonlinear morphology in Hebrew: a developmental study. *First Language*, 21, 61, 24-56.

Driessen, D.
1990 *De onderwijspositie van allochtone leerlingen. De rol van sociaal-economische en ethnisch-culturele factoren, met speciale aandacht voor het Onderwijs in eigen Taal en Cultuur.* Ph.D. thesis. Nijmegen: University of Nijmegen.

El Aissati, A.
1997 *Language loss among native speakers of Moroccan Arabic in the Netherlands.* Studies in Multilingualism, 6. Tilburg: University Press..
2001 Word order change in Berber. In: D. Ibriszimow & R. Vossen (eds.), *Etudes berbères Frankfurter Afrikanistische Blätter*, 13, 33-42.

El Aissati, A.& Y. E-rramdani
2001 Berbers. In: G. Extra & J.J. de Ruiter (eds.), *Babylon aan de Noordzee: Nieuwe talen in Nederland.* Amsterdam: Bulaaq, 61-78.

Ellis, R.
1984 *Classroom Second Language development.* Oxford: Pergamon Press.
1999 Factors in the incidental acquisition of second language vocabulary from oral input. In: R. Ellis (ed.), *Learning a second language through interaction.* Amesterdam/Philadelphia: John Benjamins.

Elman, J.L., E. Bates, M. Johnson, A. Karmiloff-Smith, D. Parisi & K. Plunkett
1996 *Rethinking innateness: a connestionist perspective on development.* Cambridge, MA.: MIT Press.

El Kirat, Y.
2001 The current status and future of the Amazigh language. *Languages and Linguistics: Revue Internationale de Linguistique*, 8, 81-95.

Ennaji, M.
1985 *Contrastive Syntax.* Würburg: Königshausen & Newman.

E-rramdani, Y.
1998 *Bilingual development in context: a study towards Berber-Dutch development of Moroccan children in the Netherlands.* M.A. thesis. Tilburg University.
1999 Tweetalige ontwikkeling in Context (2): het Berbers en het Nederlands van in Nederland wonende kinderen. *Anéla Toegepaste Taalwetenschap in Artikelen*, 61, 1.

E-rramdani, Y., R. Raha & N. de Tirado
1998 *Iles Inu.* Tasghunt- Lkitab 1: Tarifit. Tilburg: Tilburg University Press, Syntax Datura.
2000 *Iles Inu.* Tasghunt- Lkitab 2: Tarifit. Tilburg: Tilburg University Press, Syntax Datura.

Extra, G., R. Aarts, T. van der Avoird, P. Broeder & K. Yagmur
2001 *Meertaligheid in Den Haag: de status van allochtone talen thuis en op school.* Amsterdam: European Cultural Foundation.
2002 *De andere talen van Nederland: thuis en op school.* Bussum: Coutinho.

Galand, L.
1979 Relations du verbe et du nom dans l'énoncé berbère. In: C. Paris (ed.), *Relations prédicat-actant(s) dans les langues de type divers*, I. Paris: SELAF, 131-146.

Gentner, D.
1982 Why nouns are learned before verbs: Linguistic relativity versus natural partitioning. In: S. Kuczaj (ed.), *Language development.* Hillsdale, NJ: Lawrence Erlbaum Associates, 301-334.

Grinstead, J.
2000 Case, inflection and subject licencing in child Catalan and Spanish. *Journal of Child Language*, 27, 119-155.

Greenberg, J.
1966 *Universals of Language.* Cambridge, Mass.: MIT Press

Hassani, J.
1995 *Les pratiques linguistiques des immigrés marocains bruxellois:jeunes issues de la deuxieme génération.* Thèse de licence spécial. Louvain-la-neuve: Université catholique de Louvain
2001 *Language loss among second-generation Moroccan immigrants in Brussels.* Ph.D. thesis. Brussel: Vrije Universiteit Brussel.

Ingram, D.
1985 Assessing proficiency: an overview on some aspects of testing. In: K. Hyltenstamm & M. Pienemann (eds.), *Modelling and Assessing Second Language Proficiency.* Clevedon: Multilingual Matters.

Karmiloff-Smith, A., J. Grant, K. Sims, M. Jones & P. Cuckle
1996 Rethinking metalinguistic awareness: representing and accessing knowledge about what counts as a word. *Cognition*, 58, 197-219.

Kohnstamm, G.
1983 *De Utrechtse Taalniveau Test voor 4-7 jarigen.* Lisse: Swets & Zeitlinger B.V.

Köpcke, K.
1998 The acquisition of plural marking in English and German revisited: Schemata versus rules. *Journal of Child Language*, 25, 293-319.

Kossmann, M.
1997 *Grammaire du parler berbère de Figuig.* Paris/Louvain: Éditions Peeters.

Koster, J.
1975 Dutch as SOV language. *Linguistic Analysis*, 1, 2, 111-136
Lado, R.
1961 *Language testing: The construction and use of foreign language tests.* London: Longman.
Lale Uitgeverij
1996 *Schatkist Leermethode* (Tarifit). Nijmegen: Lale.
Leonard, L.
1995 Functional categories in the grammar of children with specific language impairment. *Journal of Speech and Hearing Research*, 38, 1270-1283.
Leonard, L. & L. Swanson
1999 Some differences between English plural noun inflections and 3rd singular verb inflections in the input. *Journal of Child Language*, 25, 531-543.
McClelland, C.
1987 *An English-Tarifit lexicon.* Unpublished ms.
2000 *The interrelations of syntax, narratives structure, and prosody in a Berber language.* Lampeter/Ceredigion: The Edwin Mellen Press, Ltd.
MacWhinney, B.
1999 *The emrgence of language.* Hillsdale, NJ: Lawrence Erlbaum Associates.
Marcus, G.
1995 Children's overgeneralization of English plural: a quantitative analysis. *Journal of Child Language*, 25, 447-459.
Marcus, G., U. Brinkmann, H. Clahsen, R. Wiese & S. Pink
1995 German inflection: the exception that proves the rule. *Cognitive Psychology*, 29, 189-256.
Mehlem, U.
1998 *Zweisprachigkeit marokkanischer Kinder in Deutschland. Untersuchungen zu Sprachgebrauch, Spracheinstellungen und Sprachkompetenzen marokkanischer Kinder in Deutsch, marokkanischem Arabisch und Berber (Masirisch) in Dortmund.* Ph.D. thesis. Europäische Hochschulschrifte, Rieke 21 Linguistik, Band 196. Frankfurt am Main: Peter lang.
Montagne, M. & D. Siddon
1973 *The Berbers: their social and political organisation.* London: Cass.
Muus, P.
1993 *Internationale migratie naar Europa: an analyse van internationale migratie, migratiebeleid en mogelijkheden tot sturing vam migratie, met bijzondere aandacht voor de Europese Gemeenschap en Nederland.* Amsterdam: SUA.
Nait-Zerrad, K.
1994 *Manuel de conjugaison kabyle: 6000 verbes, 176 conjugaisons.* Paris: L'Harmattan

Nortier, J.
1989 *Dutch and Moroccan Arabic in contact: code switching among Moroccans in the Netherlands.* Ph.D. thesis. Amsterdam:University of Amsterdam.
O'Grady, W.
1997 *Syntactic development.* Chicago: Chicago University Press.
Obdeijn, H., P. de Mas & P. Hermans .
2000 *Geschiedenis van Marokko.* Amsterdam/Leuven: Bulaaq/Van Halewyck.
Ouhalla, J.
1993 Subject-Extraction, Negation and the Anti-Agreement Effect. *Natural Language & Linguistic Theory,* 11, 3, 477-518.
Penchoen, T.
1973 *Tamazight of the Ayt Ndhir.* Los Angeles: Undena Publications.
Pinker, S.
1984 *Language learnability and language development.* Cambridge, MA: Harvard.
Plunkett, K. & V. Marchman
1993 From role learning to system building: acquiring verb morphology in children and connectionist nets. *Cognition,* 48, 1, 21-69.
Prasada, S. & S. Pinker
1993 Generalisation of regular and irregular morphology patterns. *Language and Cognitive Processes,* 1, 1-56.
Radford, A.
1990 *Syntactic theory and the acquisition of English syntax.* Oxford: Blackwell.
Renisio, A.
1932 *Etudes sur les dialects berbères des Beni Iznassen, du Rif et des Senhaja des Sraïr.* Paris: Leroux.
Rumelhart, D. & J. McClelland
1986 On learning the past tense of English verbs. Implicit rules or parallel distributed processing? In: J. McClelland, D. Rumelhart & PDP Research Group (eds.), *Parrallel distributed processing: Explorations in the microstrcuture of cognition.* Cambridge, MA: MIT Press.
Saïb, J.
1982 Initial vowel syncopy and reduction in Berber nouns. *Langues et Littératures,* 2. Rabat: Publications of the Faculty of Letters, 159-183.
1986 Noun pluralization in Berber: a study in internal reconstruction. *Langues et Littératures,* 5. Rabat: Publications of the Faculty of Letters, 109-133.
1989 Réflextions sur la phonologie des dialectes berbères du Nord marocain. *Le Maroc et la Hollande. Etudes sur l'histoire, la migrations, la linguistiques et la sémiologie de la culture,* 8, 271-289.

Saidi, R.
2001 *The teaching of Modern Standard Arabic to Moroccan pupils in elementary schools in the Netherlands: a study on proficiency, status and input.* PH.D. thesis. Tilburg: Katholieke Universiteit Brabant.

Samuel, A., J. McCarthy & W.Kirk
1968 *Illinois test of psycholinguistic abilities.* Illinois: Board of trustees of the University of Illinois.

Schumann, J.
1987 The expression of temporality in Basilang speech. *Studies in Second Language Acquisition*, 9, 21-41.

Smeets, H., E. Marten & J. Veenman
2002 *Jaarboek Minderheden 2001.* Houten/Diegem/Lelystad: Bohn Stafleu Van Loghum/Koninlijke Vermande.

Smith, C.
2001 Iowa Dutch inflection: Translations versus conversation. In: T. Ammerlaan, M. Hulsen, H. Strating & K. Yagmur (eds.), *Sociolinguistic and psycholinguistic perspectives on maintenance and loss of minotity languages.* Berlin: Münster, 299-318.

Slobin, D.
1985 Crosslinguistic evidence for language-making capacity. In: D. Slobin (ed.), *The crosslinguistic study of language acquisition*, 2. Hillsdale, NJ: Erbaum.
1997b *The crosslinguistic study of language acquisition,5: Expanding the contexts.* Mahwah, NJ.: Erlbaum

Starren, M.
2001 *The second time, the acquisition of temporality in Dutch and French as a second language.* Utrecht: Lot.

Su, I.
2001a Context effects on sentence processing: study based on the competition model. *Applied Psycholinguistics*, 22, 167-189.
2001b Transfer of sentence processing strategies: a comparison of L2 learners of Chinese and English. *Applied Psychlinguistics*, 22, 83-112.

Tomasselo, M.
1992 *First verbs: A case study of early grammatical development.* Cambridge: Cambridge University Press.

Tilmatine, M.
1994 Arabisch und Berberisch: die marokkanischen Schüler und Schülerinnen im Spannungsfeld zwischen Staats- und Muttersprache. *Deutch Lernen*, 2, 113-127.

Ullman, M.
2000 Accessibility Ratings of Regular and Irregular Perfect-tense Forms: Evidence for a model of Language from Word Frequency and Phonological Neighbourhood Effects. *Language and Cognitive Processes*, 14, 1, 47-67.

Van de Wetering, S.
1990 *Onderwijs in eigen taal en cultuur aan Marokkaanse kinderen in Nederland: het OETC als resultante van maatschappelijk krachtenspel.* Ph.D. thesis. Utrecht: University of Utrecht.

Van der Heijdt, H. & C. Harsen
1996 Le profile statistique de la communauté marocaine. In: M. Obdeijn & J.J. de Ruiter (eds.), *L'enseignement aux élèves marocains en Europe: journées de réflexion.* Leiden: University of Leiden, 127-130.

Youssi, A.
1992 Lexical processes in the Berber of the media in Morocco. In: J. Pleines (ed.), *Maghreb Linguistics.* Rabat: Okad, 264-281.

Wodak, R. & G. Benke
1997 Gender as a sociolinguistic variable; new perspectives on variation studies. In: F. Coulmas (ed.), *The handbook of sociolinguistics.* Oxford: Blackwell Publishers, 151-167.

Appendices

Appendix 1
Language test for grade 1 children

Task 1: Plural formation

Nr.	Given singular	Expected plural form	Gloss
1	mucc	imuccwen	*cat*
2	taziyyat	tiziyyatin	*bottle*
3	taɣenjact	tiɣenjayin	*spoon*
4	ayendɛuz afunas	iyenduzen ifunasen	*calf* *bull*
5	tiṭ	tiṭṭawin	*eye*
6	azellif	izellifen/izelljaf	*head*
7	tamellact	timellarin	*egg*
8	ḍar	iḍaren	*leg*
9	aɣerḍa	iɣerdayen	*mouse*
10	amezzyan abezzɛuḥ	imezzyanen ibezzuḥen	*little*
11	aquḍaḍ	iquḍaden	*short*
12	tmeqrant	timeqranin	*big*
13	tiɣmest	tiɣmas	*tooth*
14	lkursi	lekrasa	*chair*
15	aɣenja	iɣenjayen iɣenjawen	*ladle*
16	alɣem	ileɣman	*camel*
17	tfawet bumbiyya	tifawin bumbiyat	*light* *lamp*
18	adrad	idurar	*mountain*
19	aserdun yis	iserdan iysan	*mule* *horse*
20	taddart	tudrin tiddura	*house*
21	fud	ifadden	*knee*
22	iɣzar	iɣezran	*river*
23	talefsa fiɣer	tilefsiwin ifiɣran	*viper*
24	bnadem	iwdan	*person*
25	lkazi	lekwaza	*window*

Task 2: Case marking

Nr.	Given question	Expected answer (underlined)
1	Mani tella tɣarrabut? *Where is the boat?*	Deg waman *In the water*
2	Mayen ttegg temɣart? *What is the woman doing?*	Tessirid i thenjirt *She is washing the girl*
3	Mayen ittegg uḥenjir? *What is the boy doing?*	Ittic macca i umuc *He is feeding the cat*
4	Mayen ittegg urgaz? *What is the man doing?*	Iṣṣiriḍ i uḥenjir *He is helping the child wear his clothes*
5	Muxef ṭṭsen? *Where are they sleeping on?*	X *qamâ** *On the bed*
6	Muxef iqqim umucc? *Where is the cat sitting?*	X lkursi* *On the chair*
7	Muxef tella Munika? *Where is the doll?*	X/di tmurt *On the ground*
8	Mani ittegg uḥenjir kamyun? *Where does the child put the loary?*	X tsenduqt/tkaxxat *On the box*
9	Mani illa uḥenjir? *Where is the child?*	Di tkarrut *In the cart*
10	Mayen ttwalid da? *What do you see here?*	Mucc itsajja x uɣerḍa The cat is looking at the mouse
11	Mani tella temɣart? *Where is the woman?*	Di kuzina* In the kitchen
12	Muxef inya uryaz? *What is the man riding on?*	X backlit* On the bicycle
13	Muxef illa irezzu uḥenjir? *What is the child looking for?*	X weqzin *For the dog*
14	Zi manis iḍḍar weryaz? *Where does the man get off from?*	Zi ṭṭubis* *From the bus*
15	Muxef inya uḥenjir? *What is the child riding on?*	X userdun *On the mule*

* These nouns are not marked for case

Task 3: Gender and number distinction

Nr.	Verbs inflected for gender and number	Gloss
1	tte-tten-t	*they (f) are eating*
2	iṭṭes	*he is sleeping*
3	krennt	*they (f) got up*
4	teggur	*she is walking*
5	ssawal-ent	*they (f) are talking*
6	ttazel	*she is running*
7	ttiraren	*they (m) are playing*
8	uḍant	*they (f) fell*
9	issirid	*he is washing*
10	teqqar	*she is reading*
11	sessen	*they (m) are drinking*
12	sɣuyyunt	*they (f) are shouting*
13	qqarent	*they (f) are reading*
14	ttrun	*they (m) are crying*
15	ḍḍeḥḥec	*she is laughing*

Task 4: Perfective formation

Nr.	Stimulus sentence and tested verb (in bold type)	Expected answer
1	Da aḥenjir iruḥ ad **iney** x uyis, i da ṣafi *Here the boy is going to ride the horse, and here*	inya *he rode* (it)
2	Da aryaz **iṭṭar**, i da ṣafi *Here the man is getting off, and here*	iḍra *he got off*
3	Da aḥenjir ittruḥ ad **indu**, i da ṣafi *Here the child is going to jump, and here*	inḍu *he jumped*
4	Da taḥenjirt truh ad **tecc**, i da ṣafi *Here the girl is hoing to eat, and here*	tecca *she ate*
5	Da aḥenjir **ittɛawan** aryaz, id ṣafi *Here the boy is helping the man, and here*	iɛawn it *he helped him*
6	Da aryaz ittruḥ ad **yawey** aman, i da vafi *Here the man is going is bring water, and here*	yiwi dd *he brought it*
7	Da taḥenjirt **tekkes** nnwac, i da ṣafi *Here the girl is picking up flowers, and here*	tekkes *she picked up*
8	Da aryaz qrib **ad yaweḍ** taddart nnes, i da ṣafi *Here the man nearly arrives at his house, and here*	yiweḍ *he arrived*
9	Da ij n uryaz iruḥ ad **iseɣ** tilifizyn, i da ṣafi *Here a man is going to buy a television, and here*	isɣa *he bought (it)*
10	Da aḥenjir qat **iɛeddel** tkarrust, i da ṣafi *Here the boy is repairing his cart, and here*	iɛdel it *he repaired it*
11	Da aḥenjir iruḥ **ad yuc** tcamma i babas, i da ṣafi *Here the boy is going to give the ball to the father, and here*	yuca as tt *he gave it to him*
12	Da aḥenjir ittruḥ ad **yaley**, i da ṣafi *Here the boy is going to go upstairs, and here*	yuley *he went upstairs*
13	Da aryaz qat **iqqar**, da ṣafi *Here the man is reading, and here*	iɣra *he read*
14	Da taḥenjirt **tḥeffar**, i da ṣafi *Here the girl is digging, and here*	teḥfar *she dug*
15	Da tamɣart **ttari** tabrat, da ṣafi *Here the woman is writing a letter, and here*	tura/itt *she wrote (it)*
16	Da aryaz qat **ittirḍ**, i da ṣafi *Here the man is wearing (his clothes), and here*	iyirḍ *he wore*
17	Da aryaz qat **ittẓalla**, i da ṣafi *Here the man is praying, and here*	i-ẓẓull *he prayed*
18	Da aḥenjir qat **ittɛaren**, i da ṣafi *Here he is pushing, and here*	iɛarn *he pushed*

Task 5: Word order construction

Nr.	Given sentence	Gloss
1	Iccat Ali aɣyul	*is hitting Ali the donkey (Ali is hitting the donkey)*
2	Icerref Farid babas	*is tying up Farid his father (Farid is tying his father up)*
3	Ittjarra Ali aqzin	*is leading Ali the dog (Ali is leading the dog)*
4	Aɣyul ilqef aḥenjir	*The donkey bumped (into) the boy*
5	Ali isi Farid	*Ali is carrying Farid*
6	Tafunast tɛarren Malika	*The cow is pushing Malika*
7	Malika ttṣwwar yemmas	*Malika is taking a picture of her mother*
8	Tafunast ttebbaɛ tamɣart	*The cow is following the woman*
9	Aryaz issekker it Ali	*the man woke him up Ali (Ali woke up the man)*
10	Ali iṭṭef it Farid	*Ali caught him Farid (Farid caught Ali)*
11	Aryaz iɣeḍl it Ali	*the man dropped him Ali (Ali dropped the man)*
12	Tessekkar Aicha yemmas	*woke up Aicha her mother (Aicha woke up het mother)*
13	Teɣḍel Malika Aicha	*dropped Malika Aicha (Malika dropped Aicha)*
14	Teṭṭef Aicha Malika	*caught Aicha Malika (Aicha caught Malika)*
15	Tamɣart tcarref itt Aicha	*the woman is tying her Aicha (Aicha is tying the woman)*
16	Taḥenjirt tut itt tcamma	*the girl hits-her the ball (the ball hits the girl)*

Appendix 2
Language test for grade 8 children

Task 1: Plural formation

Nr.	Given singular	Expected plural form	Gloss
1	tiṭ	tiṭṭawin	*eye*
2	fus	ifassen	*hand*
3	taḥenjirt	tiḥenjirin	*girl*
4	taziyyat	tiziyyatin	*bottle*
5	aryaz	iryazen	*man*
6	ḍar	iḍaren	*foot*
7	tfawt	tifawin	*light*
8	abriw	abriwen	*eyelash*
9	akniw	akniwen	*twin*
10	fiɣer	ifiɣran/ifiɣrawen	*snake*
11	yis	iysan	*horse*
12	bnadem	iwdan	*person*
13	asardun	isardan	*mule*
14	alɣem	ileɣman	*camel*
15	tafdent	tifednin	*toe*
16	filu	ifilan	*thread*
17	iccar	accaren	*nail*
18	lkazi	lekwazi	*window*
18	izi	izan	*fly*
20	tiɣmest	tiɣmas	*tooth*
21	lkursi	lekrasa	*chair*
22	taddart	tudrin/tiddura	*house*
23	fud	ifadden	*knee*
24	asegmi	isegman	*baby*
25	iɣzar	iɣezran	*river*
26	talefsa	tilefsiwin	*viper*
27	aɣembub	iɣembab/iɣembuben	*face*
28	tinzer/anza(r)/inza(r)	anza(r)en	*nose*
29	ul	ulawen	*heart*
30	ancuc	ancucen	*lip*
31	ḍaḍ	iḍuḍan	*finger*
32	tɣaṭ	tiɣeṭṭen/tiɣaṭin	*goat*

Task 2: Case marking

Nr.	Stimulus sentence	Expected answer (underlined)
1	Tamɣart teqqim *The woman is sitting*	ṭṭarf/zzat i waryaz *next to the man*
2	Aḥenjir iqqim *The boy is sitting*	qibal i thenjirt *in front of the girl*
3	Aḥenjir iqqim *The boy is sitting down*	iqqim uhenjir *is sitting down the boy*
4	Iryazen xeddmen *Men are working*	xedmen yiryazen *are working men*
5	Inya *He is riding*	x uyis *the horse*
6	Aqzin ixezzar *The dog is looking at*	ɣar umucc *the cat*
7	Aḥenjir irezzu *The boy is looking*	x weqzin *for the dog*
8	Yuta *He hit*	tcamma* *the ball*
9	Taɣarrabut qat *The boat is*	di lebḥar* *in the sea*
10	Ttirar *She is playing*	zi munika* *with the toy*
11	Tifunasin ttettent *The cows are grazing*	ttettent tfunasin *are grazing the cows*
12	Inya *He is riding*	x backlit* *on the bicycle*
13	Ikkes accaren *He clipped his nails*	zi tfednin *from his toes*
14	Iṭṭes *He is sleeping*	di/x qama* *in the bed*
15	Aman *Water*	di tziyyat *in the bottle*
16	Iccat *It is hitting*	unzar *rain (it is raining)*
17	Aḥenjir qat *The boy is*	di taddart* *in the house*
18	Irza aqeccud *He broke the stick*	s ufud *with his knee*
19	Timellarin nnʷant *The eggs are cooked*	nnʷant tmelarin *are cooked the eggs*
20	Issawal *He is talking*	akid umeddukel nnes *with his friend*
21	Iryazen ṭṭsen *The men are sleeping*	ṭṭsen yiryazen *are sleeping the men*
22	Aḥenjir qat *The boy is*	di ṭṭubis* *in the bus*
23	Yuzeɣ *Is dry*	weɣrum *bread*

Nr.	Stimulus sentence	Expected answer (underlined)
24	Tiḥenjirin ttirarent *The girls are playing*	ttirarent <u>thenjirin</u> *are playing the girls*
25	Tcaɣɣut *The hat*	n <u>uhenjir</u> *of the boy*

* These nouns are not marked for case

Task 3: Gender and number distinction

Nr	Stimulus subject	Expected correct verb form
1	Tiḥenjirin *The girls*	ttettent *are eating*
2	Aḥenjir *The boy*	iṭṭes *is sleeping*
3	D tiḥenjirin ig *It is the girls who*	iḍeḥḥcen *are laughing*
4	Tiḥenjirin *The girls*	qqarent *are reading*
5	D argaz ig *It is the man who*	iṭṭsen *is sleeping*
6	Taḥenjirt *The girl*	teggur *is walking*
7	D aḥenjir ig *It is the boy who*	ittrun *is crying*
8	Tiḥenjirin *The girls*	ssawalent *are talking*
9	D aḥenjir ig *It is the boy who*	ikkren *got up*
10	D timɣarin ig *It is the women who*	isɣuyyunt *are shouting*
11	Iḥenjiren *The boys*	ttiraren *are playing*
12	D tiḥenjirin ig *It the girls who are*	neddhen (baseklit) *riding (a bicycle)*
13	Tiḥenjirin *The girls*	uḍant *fell*
14	D ihenjiren ig *The boys who*	isessen *drink*
15	Aḥenjir *The boy*	issired *is washing (himself)*
16	D tamɣart ig *It is the woman who*	iqqaren *is reading*
17	D taḥenjirt ig *It is the girls who*	ittiraren *are playing*
18	Farid d Aicha *Farid and Aicha*	sessen *are drinking*
19	D aḥenjir ig *It is the boy who*	issawalen *is talking*

Nr	Stimulus subject	Expected correct verb form
20	Mina *Mina*	teqqar *is reading*
21	Timɣarin *The women*	sɣuyyunt *are shouting*
22	D aḥenjir ig *It is the boy who*	yuḍan *fell*
23	Tiḥenjirin *The girls*	qqarent *are reading*
24	D aḥenjir ig *It is the boy who*	ittazzlen *is running*
25	Iḥenjiren *The boys*	ttrun *are crying*
26	D aḥenjir ig *It is the boy who*	issiriden *is washing (himself)*
27	Aicha *Aicha*	ḍḍeḥḥec *is laughing*
28	D tahenjirt ig *It is the girl who*	ittetten *is eating*

Task 4: The perfective

Nr	Verb aorist	Stimulus sentence	Expected correct answer
1	ɛarn tkarrut *push the cart*	iḍennaḍ Ali *yesterday Ali*	iɛarn *pushed*
		maca umas ur *but his brother not*	iɛirn *pushed*
2	ewc kadu *give a gift*	iḍennaḍ Ali *yesterday Ali*	yuca *gave*
		maca umas ur *but his brother not*	yuci *gave*
3	ɣar di lmedrasa *learn (be) at school*	iḍennaḍ Ali *yesterday Ali*	iɣra *learned*
		mac aumas ur *but his brother not*	iɣri *learned*
4	weddar di tendint *be lost in the city*	iḍennaḍ Ali *yesterday Ali*	iweddar *was lost*
		maca umas ur *but his brother not*	iweddar *was lost*
5	seɣ backlit *buy a bicycle*	iḍennaḍ Ali *yesterday Ali*	isɣa *bought*
		maca umas ur *but his brother not*	isɣi *bought*
6	arja di djiret *dream at night*	iḍennaḍ Ali *yesterday Ali*	yurja *dreamed*
		maca umas ur *but his brother not*	urji *dreamed*
7	aley x tsejjart *climb up the tree*	iḍennaḍ Ali *yesterday Ali*	yuley *climbed*
		maca umas ur *but his brother not*	yuley *climbed*
8	ayem aman *bring water*	iḍennaḍ Ali *yesterday Ali*	yuyem *brought water*
		maca umas ur *but his broher not*	yuyim *brought (water)*
9	ney xueɣyul *ride a donkey*	iḍennaḍ Ali *yesterday Ali*	inya *rode*
		maca umas ur *but his brother not*	inyi *rode*
10	ttru djiret di *cry at night*	iḍennaḍ Ali *yesterday Ali*	iru *cried*
		maca umas ur *but his brother not*	iru *cried*
11	Nḍu zi tsejret *spring from a tree*	iḍennaḍ ali *yesterday Ali*	inḍu *sprang*
		maca umas ur *but his brother not*	inḍiw *sprang*

Nr	Verb aorist	Stimulus sentence	Expected correct answer
12	ẓwa yabrid *cross the road*	iḍennaḍ Ali *yesterday Ali*	izwa *crossed*
		maca umas ur *but his brother not*	izwi *crossed*
13	ḍar zi ṭṭubis *get off the bus*	iḍennaḍ Ali *yesterday Ali*	iḍra *got off*
		maca umas ur *but his brother not*	iḍri *got off*
14	ɛawen yemmas *help his mother*	iḍennaḍ Ali *yesterday Ali*	iɛawen *helped*
		maca umas ur *but his brother not*	iɛiwen *helped*
15	aweḍ ɣar taddart *arrive at home*	iḍennaḍ Ali *yesterdah Ali*	yiweḍ *arrived*
		maca umas ur *but his brother not*	yiwiḍ *arrived*
16	ejj backllit *leave the bicycle*	iḍennaḍ Ali *yesterday Ali*	ijja *left*
		maca umas ur *but his brother not*	ijji *left*
17	kker zic (zeg yiḍes) *get up early*	iḍennaḍ Ali *yesterday Ali*	ikker *got up*
		maca umas ur *but his brother not*	ikkir *got up*
18	rḥel ɣar Hulanda *move to the Netherlands*	iḍennaḍ Ali *yesterday Ali*	irḥel *moved*
		maca umas ur *but his brother not*	irḥil *moved*

Task 5: Word order construction

Nr.	Given sentence	Gloss	Expected word order
1	Min itteg Ali?	*What is Ali doing?*	SVO
2	Aqzin, min d as igga uḥenjir?	*The dog, what did the boy to it?*	OVS
3	Min igga weɣyul?	*What did the donkey do?*	SVO
4	Min ittegg uryaz?	*What is the man doing?*	SVO
5	Aryaz, min d as itteg uḥenjir?	*The man, what is the boy doing to him?*	OVS
6	Min ittegg Farid?	*What is Farid doing?*	SVO
7	Min tegga Malika?	*What did Malika do?*	SVO
8	Farid, min d as igga Ali?	*Farid, what did Ali do to him?*	OVS
9	Aryaz min d as igga Ali?	*The man, what did Ali do to him?*	OVS
10	Min ttegg tḥenjirt?	*What is the girl doing?*	SVO
11	Taḥenjirt, min d as igga uḥenjir?	*The girl, what did the boy do to her?*	OVS
12	Min ittegg uḥenjir?	*What is the boy doing?*	SVO
13	Tafunast, min d as tteg ṭumubin?	*The cow, what is the car doing to it?*	OVS
14	Min ttegg Aicha?	*What is Aicha doing?*	SVO
15	Aicha, min d as tegga Malika?	*Aicha, what did Malika do to her?*	OVS
16	Takarrasut, min d as itteg uḥenjir?	*The cart, what is the boy doing to it?*	OVS

Appendix 3
Questionnaire conducted with the mothers of grade 1 children

This questionnaire was conducted orally with the mothers of grade 1 children in their language of choice, i.e. Tarifit-Berber, Moroccan Arabic, or Dutch. It is presented in this appendix in English.

I General information

1 Name of the interviewer:

2 Interview beginning time: hour minute

3 Date: Place:

4 Family name: Living place:

5 Name of the child:

6 School name:

7 In which language do you want to be interviewed?
O Tarifit O Moroccan Arabic O Dutch O Other:

8 First language of the mother (Stop the interview when the first language is not Tarifit)
O Tarifit O Moroccan Arabic O Dutch O Other:

9 First language of the father (Stop the interview when the first language is not Tarifit)
O Tarifit O Moroccan Arabic O Dutch O Other:

10 Where did the family live in Morocco (village/city)

II Father

11 Birth date:

12 Birth place (city/village):
Birth country:
O The Netherlands O Morocco O Other:

13 If not born in the Netherlands, when did the father come to the Netherlands?

14 Do/did the parents of the father live in the Netherlands?
O Yes O No

15 How long has the father spent at school?

1	No or less than one year			
2	Primary school in:	O Morocco	O The Netherlands	O Other:
3	Secondary school in:	O Morocco	O The Netherlands	O Other:
4	Higher school/University in:	O Morocco	O The Netherlands	O Other:

16 Diploma obtained (more than one answer can be given):

1 No diploma
2 Secondary school diploma in: O Morocco O The Netherlands O Other:
3 Higher school/University degree in: O Morocco O The Netherlands O Other:
4 Other in: O Morocco O The Netherlands O Other:

17 If the father did not attend school in the Netherlands, did he follow courses in Dutch?

O Yes O No

18 Does the father speak Dutch? If yes, how good?

O No O Little O Fair O Good O Very good

19 Work of the father?

O No work O Incapacitated O Paid work as:

III Mother

20 Birth date:

21 Birth place (city/village):

Birth country:

O The Netherlands O Morocco O Other:

22 If not born in the Netherlands, when did the mother come to the Netherlands?

23 Do/did the parents of the mother live in the Netherlands?

O Yes O No

24 How long has the mother spent at school?

1 No or less than one year
2 Primary school in: O Morocco O The Netherlands O Other:
3 Secondary school in: O Morocco O The Netherlands O Other:
4 Higher education/University in: O Morocco O The Netherlands O Other:

25 Diploma obtained (more than one answer can be given)

1 No diploma
2 Secondary school diploma in: O Morocco O The Netherlands O Other:
3 Higher education/University degree in: O Morocco O The Netherlands O Other:
4 Other in: O Morocco O The Netherlands O Other:

26 If the mother did not attend school in the Netherlands, did she follow courses in Dutch?

O Yes O No

27 Does the mother speak Dutch? If yes, how good?

O No O Little O Fair O Good O Very good

28 Work of the mother

O Housewife, not looking for a job O Housewife, looking for a job
O Incapacitated O Paid work as:

IV The child

29 Birth date:

30 Birth place:

Birth Country:

O The Netherlands O Morocco O Other:

31 If not born in the Netherlands, when did the child come to the Netherlands?

32 Gender:

O Boy O Girl

33 In case of more children in the family, ranking of the child among the siblings:

O Eldest O More than the third, but not the youngest

O Second O Youngest

O Third

34 Does the child have one or more siblings at school? If yes, in which grade?

O No O Yes: Grade: 1------2------3------4------5------6------7------8 O Other:

35 Did the child attend kindergarten?

O No O Yes

If yes, from which age on:

V Language proficiency

Scale: 1 No 2 Little 3 Fair 4 Good 5 Very good

36 Language proficiency of the mother in Dutch:

a Understanding: 1-------2-------3-------4-------5

b Speaking: 1-------2-------3-------4-------5

37 Language proficiency of the father in Dutch:

a Understanding: 1-------2-------3-------4-------5

b Speaking: 1-------2-------3-------4-------5

38 Language proficiency of the child in Tarifit:

a Understanding: 1-------2-------3-------4-------5

b Speaking: 1-------2-------3-------4-------5

VI Language choice

Scale: 1 Tarifit only
2 Often Tarifit and sometimes Dutch
3 As often Tarifit as Dutch
4 Sometimes Tarifit and often Dutch
5 Dutch only

Language choice of the child:

39 What language did the child speak with the mother before attending school? 1-------2-------3-------4-------5

40 What language does the child speak with the mother now? 1-------2-------3-------4-------5

41 What language did the child speak with the father before attending school? 1-------2-------3-------4-------5

42 What language does the child speak with the father now? 1-------2-------3-------4-------5

43 What language does the child speak with younger siblings? 1-------2-------3-------4-------5

44 What language does the child speak with elder siblings? 1-------2-------3-------4-------5

45 What language does the child speak at home when playing alone? 1-------2-------3-------4-------5

46 What language does the child speak with Tarifit speaking friends? 1-------2-------3-------4-------5

Language choice of the parents:

47 What language did the mother speak with the child before the child's school attendance? 1-------2-------3-------4-------5

48 What language does the mother speak with the child now? 1-------2-------3-------4-------5

49 What language did the father speak with the child before the child's school attendance? 1-------2-------3-------4-------5

50 What language does the father speak with the child now? 1-------2-------3-------4-------5

51 What language do you speak with your partner? 1-------2-------3-------4-------5

52 What language do you speak with the elder sibling(s) of the child? 1-------2-------3-------4-------5

53 What language do you speak with the younger sibling(s) of the child? 1-------2-------3-------4-------5

54 What language does your partner speak with you? 1-------2-------3-------4-------5

55 What language does your partner speak with the elder siblings of the child? 1-------2-------3-------4-------5

56 What language does your partner speak with the younger siblings of the child? 1-------2-------3-------4-------5

Language choice of siblings of the child:

57 What language do the siblings of the child speak with the mother? 1-------2-------3-------4-------5

58 What language do the siblings of the child speak with the father? 1-------2-------3-------4-------5

59 What language do the children speak with each other? 1-------2-------3-------4-------5

60 What language do the elder siblings speak with the child? 1-------2-------3-------4-------5

61 What language do your children speak with each other? 1-------2-------3-------4-------5

62 What language do the children speak with adult Tarifit speaking family members in the Netherlands? 1-------2-------3-------4-------5

63 What language do the children speak with Tarifit speaking family children in the Netherlands? 1-------2-------3-------4-------5

VII Language dominance

64 What language does the child speak best?
O Tarifit O Dutch O Other:

65 What language does the mother speak best?
O Tarifit O Dutch O Other:

66 What language does the father speak best?
O Tarifit O Dutch O Other:

VII Language preference

67 Which language does the child prefer to speak?
O Tarifit O Dutch O Other:

68 Which language does the father prefer to speak?
O Tarifit O Dutch O Other:

69 Which language does the mother prefer to speak?
O Tarifit O Dutch O Other:

VIII Language attitudes

Scale: 1 Very important 4 Not important
2 Important 5 Not at all important
3 Neutral

70 How important	Tarifit	Dutch
a do you find these languages?	1-------2-------3-------4-------5	1-------2-------3-------4-------5
b would your partner find these languages?	1-------2-------3-------4-------5	1-------2-------3-------4-------5

End of interview

The following questions are to be answered by the interviewer.

71 Interview conducted with:

O Mother O Father O Other:

72 In which language(s) did the interviewer ask the questions?

O Only/Mainly Tarifit O As much Tarifit as Dutch O Only/Mainly Dutch

73 Which language(s) did the informant use?

O Only/Mainly Tarifit O As much Tari0fit as Dutch O only/Mainly Dutch

74 How long did the interview take?

75 Where did the interview take place?

O At school O At home O Other:

Appendix 4
Questionnaire conducted with grade 8 children

The questionnaire was conducted orally with grade 8 children in the language of their choice, i.e. Tarifit and/or Dutch. The questionnaire for the mothers of grade 1 children presented in Appendix 3 and the present one have many commonalities. Therefore, Appendix 4 contains only the modified and newly added questions. The modified questions are numbers 45, 50-51, 59, 64, 71-72, and 74. Questions added are numbers 11, 44, 58, 63, 65-66, 69-70, 73, and 81a. Questions below are numbered as they appeared in the complete version of the questionnaire for grade 8 children.

I General information

11 Where do you go on vacation in Morocco?

II Father

III Mother

IV Child

V Language choice

Scale: 1 Tarifit only
2 Often Tarifit and sometimes Dutch
3 As often Tarifit as Dutch
4 Sometimes Tarifit and often Dutch
5 Dutch only

Language choice of the child:

44 What language do you speak with younger siblings not attending school yet? 1-------2-------3-------4-------5

45 What language do you speak with younger siblings attending school? 1-------2-------3-------4-------5

50 What language do you speak with your Tarifit speaking best friend? 1-------2-------3-------4-------5

51 What language does your Tarifit speaking best friend speak with you? 1-------2-------3-------4-------5

58 What language does your mother speak with your younger siblings not attending school? 1-------2-------3-------4-------5

59 What language does your mother speak with your younger siblings attending school? 1-------2-------3-------4-------5

63 What language does your father speak with your younger siblings not attending school? 1-------2-------3-------4-------5

64 What language does your father speak with your younger siblings attending school? 1-------2-------3-------4-------5

65 What language does your mother speak with adult Tarifit speaking family members in the Netherlands? 1-------2-------3-------4-------5

66 What language does your father speak with adult Tarifit speaking family members in the Netherlands? 1-------2-------3-------4-------5

Language choice of siblings of the child:

69 What language do your younger siblings not attending school speak with your mother? 1-------2-------3-------4-------5

70 What language do your younger siblings not attending school speak with your father? 1-------2-------3-------4-------5

71 What language do your younger siblings attending school speak with your mother? 1-------2-------3-------4-------5

72 What language do your younger siblings attending school speak with your father? 1-------2-------3-------4-------5

73 What language do your younger siblings not attending school speak with you? 1-------2-------3-------4-------5

74 What language do your younger siblings attending school speak with you? 1-------2-------3-------4-------5

VIII Language attitudes

Scale: 1 Very important
2 Important
3 Neutral
4 Not important
5 Not at all important

81 How important	Tarifit	Dutch
a do you find these languages?	1-------2-------3-------4-------5	1-------2-------3-------4-------5
b do your parents find these languages?	1-------2-------3-------4-------5	1-------2-------3-------4-------5

Samenvatting

Hoe verloopt de ontwikkeling van de beheersing van grammaticale morfemen in het Tarifit van Tarifit sprekende kinderen? Hoe vaardig zijn zij in het hanteren van de drie verschillende woordvolgordepatronen in het Tarifit? In een vergelijkend onderzoek van Tarifit sprekende kinderen in Nederland en Marokko wordt beoogd deze twee hoofdvragen te beantwoorden.

Informanten en instrumenten

De informanten in elk land bestaan uit twee vergelijkbare leeftijdsgroepen; de groep jonge kinderen bestaat uit kinderen in de leeftijd van 4-5 jaar (groep-1 kinderen) en de oudere leeftijdsgroep (groep-8 kinderen) bestaat uit kinderen in de leeftijd van 12-13 jaar. Het onderscheid tussen beide leeftijdsgroepen is gebaseerd op het onderwijssysteem in Nederland; de kinderen van groep 1 bezoeken het eerste schooljaar en de kinderen van groep 8 het laatste schooljaar van het Nederlandse basisonderwijs. In deze studie worden de kinderen in Nederland de kerngroepen genoemd en de kinderen in Marokko worden als referentiegroepen aangeduid.

Het onderzoek is gericht op de verwerving van morfologie en syntaxis. Daartoe zijn twee toetsen ontwikkeld, één voor elke leeftijdsgroep. Elke toets bestaat uit vijf taken, vier morfologische taken en één syntactische taak. De morfologische taken betreffen achtereenvolgens meervoudsvorming, casusmarkering, woordgeslacht en getal, en de vorming van voltooide tijd (perfectum). De syntactische taak betreft de constructie van woordvolgorde.

De taken voor beide leeftijdsgroepen richten zich op dezelfde domeinen. De taken van de groep-8 leerlingen zijn zowel kwantitatief omvangrijker (meer items) als kwalitatief breder in de zin dat meer aspecten van een domein getoetst worden, zoals zal blijken uit de presentatie van elke taak hierna. Drie taken voor de groep-1 kinderen zijn als productieve taken opgezet. Daarbij is gebruik gemaakt van platenboeken voor het ontlokken van meervoudsvorming, casusmarkering of vorming van de voltooide tijd. De andere twee taken zijn als receptieve taken geconstrueerd, opnieuw met gebruikmaking van platenboeken. De kinderen hoorden eerst een stimuluszin, waarna ze uit drie alternatieven de correcte afbeelding moesten kiezen. Alle taken voor de groep-8 kinderen zijn als productieve taken opgezet, opnieuw met gebruikmaking van platenboeken om casusmarkering, woordgeslacht en getal, en woordvolgorde te ontlokken.

Verwerving van morfologie

1 Meervoudsvorming

Het meervoud in het Tarifit wordt gevormd door twee belangrijke affixatie-processen, namelijk prefixen en suffixen, en in enkele gevallen door middel van een infix of modificatie van de stam. In deze studie is het meervoud gecategoriseerd naar regelmatige en onregelmatige vormen, verdeeld over vijf typen afhankelijk van de suffix-inflectie. Type 1 bestaat uit mannelijke substantiva met de suffixen *-en* en *-an*, type 2 uit mannelijke substantiva met de suffixen *-wen* en *-yen*, type 3 uit vrouwelijke substantiva die het suffix *-in* krijgen, en type 4 uit vrouwelijke substantiva die de suffixen *-win* of *-yin* krijgen. Type 5 bestaat uit onregelmatige meervouden.

Het verschil in uitkomsten tussen groep-1 kinderen in Marokko en Nederland is groot. De eerste groep behaalt een correctscore van 84%, terwijl de kinderen in Nederland 12% van de items correct scoren. Bij de laatste groep is type 1, mannelijke substantiva met *-en/-an*, het gemakkelijkste en type 5, onregelmatige meervouden, het moeilijkst.

De fouten van de groep in Nederland zijn meer uiteenlopend. In 58% van de fouten wordt de enkelvoudige vorm als meervoud gegeven, dat wil zeggen er vindt geen modificatie van de stam plaats; in 28% is de stam wel gemodificeerd, maar verkeerd, en in 14% van de gevallen heeft een foutief antwoord een andere reden, zoals non-respons, het gebruik van een Arabische of Nederlandse meervoudsvorm, of het gebruik van een kwantificator in combinatie met een enkelvoudig woord, zoals *tnayen lkursi* (twee stoel). De foutreacties van de groep in Marokko betreffen bijna allemaal (90%) het foutieve meervoud bij de modificatie van de stam met de verkeerde verbuiging.

Verder verschillen de twee groepen ook met betrekking tot de aard van fouten als gevolg van verkeerde meervoudsvorming. Voor de kerngroep in Nederland heeft het geven van verkeerde meervouden twee soorten fouten als oorzaak. De eerste oorzaak doet zich voor op het niveau van het affixatieproces. De kinderen negeren de prefixatie en richten zich uitsluitend op suffigering. Op die manier laten ze het begin van de stam onveranderd en proberen ze de stam alleen op het niveau van het suffix te veranderen. Dit impliceert dat de Nederlandse kerngroep de rol van prefixatie in de meervoudsvorming in het Tarifit nog niet geconceptualiseerd heeft. De tweede oorzaak van fouten betreft de keuze van de inflecties; de kinderen passen zero-inflectie toe op prefix-niveau en gebruiken verkeerde inflecties op suffix-niveau. Het suffix *-en* voor mannelijke substantiva wordt overgegeneraliseerd naar alle typen woorden, inclusief vrouwelijke substantiva.

Ook bij de groep-8 kinderen is er een groot verschil. De referentiegroep in Marokko behaalt een correctscore van 99%, de kerngroep in Nederland van 50%. De kerngroep presteert het beste bij de mannelijke meervoudsvorm *i-en* en bij de vrouwelijke meervoudsvorm *i-in*. Van de fouten van deze groep betreft 60% twee niveaus, allereerst door op het niveau van het prefix het prefixatieproces te negeren en dus het begin van de stam ongewijzigd te laten; bij 34% van deze fouten wordt het meervoudssuffix overigens wel correct toegepast. Het spiegelbeeld daarvan, dat wil zeggen een correct gebruik van het prefix terwijl het suffix ongewijzigd blijft, komt niet voor. Het tweede type fout betreft de

keuze van de inflectie bij suffigering. Van de fouten is 40% een gevolg van het verkeerd gebruiken van het suffix, terwijl het prefix correct gebruikt wordt. Tenslotte betreft 26% van de fouten zowel het prefix door het gebruik van zero-inflectie, als het suffix door een verkeerde inflectie. De inflectie *-en* is ook bij deze groep het meest overgegeneraliseerde suffix, dat ook bij vrouwelijke substantiva wordt gebruikt.

Er zijn twee belangrijke overeenkomsten tussen groep-1 en groep-8 kinderen. De eerste overeenkomst betreft het negeren van het prefix-proces. Dit feit illustreert dat prefixatie lastig blijft, zelfs voor oudere kinderen, ofschoon de inflecties op het niveau van het prefix zowel in kwantitatief als kwalitatief opzicht eenvoudig zijn, namelijk door het veranderen van *a-* in *i-* of alleen insertie van *i-*. De realisering van het suffix vindt al van jongsafaan plaats, tenminste al op de leeftijd van de groep-1 kinderen. Er is een groot aantal suffix-inflecties. Het suffix *-en* wordt veel gebruikt door zowel groep-1 kinderen als groep-8 kinderen. Gebruikmaking van dit suffix is gangbaar in het Tarifit voor mannelijke vormen en bovendien vormt dit suffix het meest frequente meervoudsmorfeem in het Nederlands.

2 Casusmarkering

Substantiva in het Tarifit zijn zowel ongebonden, dat wil zeggen ze hebben een neutrale vorm, als gebonden met een constructstatus, afhankelijk van de context van voorkomen, dat wil zeggen na prepositities en na werkwoorden waarvan het substantief het subject is (VS). Het begin van de stam kan op verschillende manieren verbogen worden, zoals *u-*, *y-*, *wa-* en *we-* voor mannelijke substantiva, of door deletie van de beginklinker voor vrouwelijke substantiva. Deze veranderingen vinden alleen plaats op het niveau van het prefix. De taak voor groep-1 kinderen richtte zich op het gebruik van de constructstatus wanneer het substantief verschijnt na een prepositie. De taak voor groep-8 kinderen richtte zich op het gebruik van de constructstatus in twee contexten, dat wil zeggen wanneer het substantief na een prepositie komt en wanneer het na een werkwoord komt.

De referentiegroep-1 in Marokko behaalde een correctscore van 67%. De kerngroep-1 in Nederland behaalde een correctscore van 11%, waarbij de correcte antwoorden vooral van een paar kinderen kwamen. Er was wat dit betreft geen verschil tussen mannelijke en vrouwelijke substantiva. Bijna alle fouten van de kerngroep waren een gevolg van het gebruiken van de vrije vorm, dat wil zeggen zonder de vorm van het substantief ook maar enigszins te veranderen. De algemene conclusie is dat de kinderen zich niet gerealiseerd hebben dat er een verschil is tussen vrije status en constructstatus en dat ze de construct-status moeten gebruiken na prepositities.

Voor de groep-8 kinderen was de gemiddelde correctscore op deze taak 89% bij de referentiegroep in Marokko en 39% bij de kerngroep in Nederland. Er was geen verschil in scores tussen substantiva na prepositities en na werkwoorden. Fouten van de kerngroep waren vooral een gevolg van het gebruik van de vrije vorm. Er waren nauwelijks fouten in de constructvorm tengevolge van een verkeerde verbuiging. De kerngroep had meer moeite met vrouwelijke substantiva. In het Tarifit verschillen mannelijke en vrouwelijke substantiva morfologisch van elkaar: mannelijke woorden hebben een (V)-stamstructuur (V = klinker) en beginnen met de klinker die verandert in de gebonden staat of ze beginnen

met een consonant, terwijl vrouwelijke substantiva beginnen met de *t*-markering voor vrouwelijke woorden, gevolgd door de veranderlijke klinker, hetgeen tot een *t-V-* stamstructuur leidt.

Zowel groep-1 kinderen als groep-8 kinderen produceerden beide typen foutieve antwoorden in de vrije staat. De afwezigheid van gebonden vormen lokt uit dat de kinderen alleen de vrije vorm van de substantiva realiseren. Kennelijk leren deze kinderen dit helemaal niet. Een constant gebruik van de vrije vorm wordt ook gemeld in veel andere studies over oudere informanten. Het niet verwerven van de gebonden vorm kan twee belangrijke oorzaken hebben. De eerste oorzaak is grammaticaal, dat wil zeggen dat de vrije vorm de ongemarkeerde vorm is, terwijl de gebonden vorm de afgeleide vorm is. Dat betekent dat substantiva eerst in de vrije vorm verworven worden, terwijl de gebonden vorm pas later verworven wordt, onder gunstige omstandigheden. De tweede oorzaak heeft te maken met perceptuele opvallendheid; de gebonden vorm heeft geen andere conceptuele referent in de werkelijkheid dan de vrije vorm, zoals bijvoorbeeld enkelvoud en meervoud dat wel hebben. Het verschil is puur grammaticaal.

3 Woordgeslacht en getal

De taak voor de groep-1 kinderen heeft betrekking op subject-verbum-overeenstemming in relatie tot geslacht (mannelijk/vrouwelijk) en getal (enkelvoud/meervoud) in de derde persoon. Overeenstemming vindt plaats op prefix-niveau voor het enkelvoud door het toevoegen van *i-* voor mannelijke en *t-* voor vrouwelijke woorden, en op suffix-niveau voor het meervoud door middel van het suffix *-en* voor mannelijke en *-en-t* voor vrouwelijke woorden.

De referentiegroep in Marokko haalde een correctscore van 87%. De kerngroep in Nederland scoorde veel lager met 42% van de antwoorden correct. De fouten van de kerngroep verschilden voor enkelvoud en meervoud. Bij enkelvoud betroffen de fouten zowel het getal door meervoud te maken in plaats van enkelvoud, als het geslacht door een mannelijk in plaats van vrouwelijk subject aan te geven of andersom. Voor de mannelijke werkwoorden werd dit type geslachtsfouten vooral aangetroffen bij de twee mannelijke items die met een *t-* inflectie voor de tegenwoordige tijd begonnen, bijvoorbeeld *tt-irar-en* (zij zijn aan het spelen) en *tt-run* (zij zijn aan het huilen). De kinderen leken de tijdsvervoeging te verwarren met de geslachtsmarkering en veronderstelden kennelijk dat het eerste naar de vrouwelijke vorm verwees. Fouten met betrekking tot de meervoudsvorm betroffen alleen geslacht, door een mannelijke in plaats van een vrouwelijke vorm aan te duiden. De mannelijke meervoudsvormen krijgen het suffix *-en*, terwijl het meervoud van de vrouwelijke vormen het (complexe) suffix *-en-t* krijgt. Beide vormen krijgen *-en* als meervoudsmarkering. Het feit dat verba met een vrouwelijke inflectie gezien worden als verwijzend naar mannelijke personen kan in verband gebracht worden met de *t*-inflectie. Wat dit betreft kunnen twee hypothesen geformuleerd worden. De eerste hypothese is dat de markering van een vrouwelijke vorm aan het einde na een nasaal zo weinig articulatie krijgt dat die voor kinderen van groep 1 moeilijk waar te nemen is. Dat leidt ertoe dat ze aan een mannelijke vorm met stam plus *-en* denken. De tweede hypothese is dat de manne-

lijke vorm de basisregel is die overgegeneraliseerd wordt naar vrouwelijke vormen, totdat de inflectie van de vrouwelijke vormen verworven is.

De taak voor groep-8 kinderen bestaat uit twee delen. Deel 1 heeft betrekking op subject-verbum-overeenkomst op het niveau van woordgeslacht en getal, deel 2 op het ontbreken van overeenkomst tussen subject en verbum, zowel op het niveau van woordgeslacht als op het niveau van getal. Dit gebeurt in complexe zinnen als *d Hassan ig idjan din* (het is Hassan die daar is) door gebruikmaking van de deelwoordvorm van het werkwoord *i-dja-n*, dat de structuur heeft van *i*-stam-*n*. Dit deelwoord wordt gebruikt bij alle persoons- en woordgeslachtsvormen. De taak is als een productieve taak opgezet.

De scores van de groep-8 kinderen in Nederland waren met een correctscore van 71% beter voor het onderdeel woordgeslacht-getal-overeenkomst dan voor het tweede deel met niet-overeenkomst. Daarbij was de correctscore 50%. Bij het enkelvoud van zowel mannelijke als vrouwelijke woorden was de correctscore 100%. Daarbij ging het om het prefix *i-* voor de mannelijke en *t-* voor de vrouwelijke woorden. De referentiegroep in Marokko behaalde voor deel 1 en deel 2 respectievelijk correctscores van 99% en 96%. De fouten van de kerngroep deden zich vooral voor bij het vrouwelijk meervoudssuffix *-en-t*, meer in het bijzonder bij het woordgeslacht-morfeem *-t*. De kinderen gebruikten het morfeem *-en* voor getal correct, maar misten het morfeem *-t* voor de vrouwelijke vorm, hetgeen resulteerde in de vorm stam-*en*, dezelfde vorm als bij de derde persoon meervoud van mannelijke woorden. Dit deed zich ook voor bij de groep-1 kinderen. Een zelfde fenomeen werd gesignaleerd bij oudere informanten in de studies van Boukous (1982) in Marokko en Bouhjar (1993) in België.

In het gedeelte over het ontbreken van overeenkomst waren de fouten vooral een gevolg van het toepassen van subject-verbum-overeenkomst. De kinderen hebben niet gesignaleerd dat de gebruikte context vereist dat ze de deelwoordvorm gebruiken en bleven dus denken in termen van de basisregel voor verbum-subject-overeenkomst.

De taak laat zien dat de kinderen in Nederland de woordgeslacht-inflectie voor het enkelvoud hebben verworven, zowel voor mannelijke als voor vrouwelijke woorden, en ook het meervoud van de mannelijke vorm. Problemen doen zich vooral voor bij het meervoud van de vrouwelijke woorden en bij het gebruik van het deelwoord.

4 Vorming van de voltooide tijd

De verba die in de taak gebruikt werden, zijn in drie categorieën onderverdeeld, gebaseerd op de veranderingen die zij ondergaan in het perfectum. Categorie 1 bevat werkwoorden met verbuiging met prefixen, suffixen en infixen. Categorie 2 bevat werkwoorden die alleen een suffix krijgen in de voltooide tijd en de werkwoorden van categorie 3 hebben dezelfde stam in de aoristus als in de voltooide tijd. De taak voor de groep-1 kinderen gaat over het gebruik van het perfectum in bevestigende zinnen.

Met een correctscore van 22% waren de scores van de groep-1 kinderen in Nederland erg laag. De eerste categorie scoorde het laagste met 12% van de antwoorden correct, categorie 2 en 3 waren ongeveer even moeilijk met correctscores van respectievelijk 29% en 30%. Dit toont aan dat werkwoorden die een suffix krijgen of werkwoorden die niet

veranderen makkelijker zijn dan werkwoorden die een prefix of infix krijgen. De kinderen in Marokko behaalden een correctscore van 94%. Daarbij waren er nauwelijks verschillen tussen de drie categorieën werkwoorden.

De fouten van de kerngroep in Nederland waren vooral een gevolg van het gebruik van pragmatische uitdrukkingen, zoals *safi* (dat was het) en *kemmel* (klaar). Het gebruik van zulke pragmatische vormen leidt tot afwezigheid van enige grammaticale regel of strategie voor het uitdrukken van voltooide tijd. Het gebruik van pragmatische strategieën, zoals pragmatische adverbia, tijdsuitdrukkingen of sequenties om temporaliteit uit te drukken, is eerder geobserveerd bij monolinguale kinderen op jonge leeftijd. Dit stadium gaat vooraf aan het gebruik van zowel aspect als tijd (Schumann, 1987). Met dit gegeven kan men concluderen dat groep-1 kinderen die zulke pragmatische middelen gebruiken zich nog bevinden in dit vroege stadium.

De taak voor de groep-8 kinderen bestond uit twee delen; het eerste deel betrof de voltooide tijd in bevestigende zinnen en het tweede deel de voltooide tijd in ontkennende zinnen. In het eerste geval impliceert verandering van de aoristus in een affirmatief perfectum veranderingen op het niveau van prefixatie, infixatie en/of suffixatie, zoals bij de groep-1 taak vermeld. Het negatieve perfectum wordt gemarkeerd door verandering van de laatste klinker in de stam in *-i-*, zoals in *i-cc-a* (hij heeft gegeten) in de affirmatieve vorm, dat in de negatieve vorm *ur i-cc-i* (hij heeft niet gegeten) wordt.

De referentiegroep scoorde 99% correct op beide vormen. De kerngroep scoorde 72% correct op de affirmatieve vorm en 28% correct op de negatieve vorm. De laagste scores bij de affirmatieve vorm kwamen voor bij de werkwoorden die een verandering van prefix krijgen, zoals *a-ley* (ga naar boven) in de aoristus dat *u-ley* wordt als perfectum, of werkwoorden die zowel met pre- als suffixatie te maken krijgen, zoals *arj* in de aoristus dat *u-rj-a* wordt als affirmatief perfectum en *ur u-rj-i* in de negatieve vorm. Verba die een suffix krijgen, zoals *der/dr-a* (stap uit), scoorden het beste. Bij het negatieve perfectum gebruikten de kinderen dezelfde vormen als bij het affirmatieve perfectum. Ze realiseerden zich niet het verschil tussen beide en overgeneràliseerden de affirmatieve vorm.

De eerste onderzoeksvraag uit Hoofdstuk 1 naar de verwerving van morfologie kan als volgt beantwoord worden. Groep-1 kinderen in Nederland vormen een heterogene groep waarin drie subgroepen onderscheiden kunnen worden. De eerste groep bestaat uit kinderen die het morfologisch systeem van het Tarifit verworven hebben en op dezelfde wijze de taken uitvoerden als de kinderen in Marokko. De tweede groep bestaat uit kinderen die het stadium van morfologische structuren bereikt hebben; hun antwoorden worden gemarkeerd door een modificatie van de stam op het niveau van prefix en suffix, of tenminste op het niveau van het suffix alleen. De derde groep bestaat uit een meerderheid van kinderen die geen enkele productiviteit op morfologisch niveau laten zien. Zij gebruiken uitsluitend lexicale middelen en bevinden zich daarom pas in een vroeg lexicaal stadium van taalverwerving.

Van de groep-8 kinderen slaagden velen erin min of meer hetzelfde niveau te bereiken als hun leeftijdgenoten in Marokko. Toch varieerde hun taalvaardigheid, afhankelijk van

het type morfologische verbuiging. Zij hadden vooral problemen met casusmarkering en met het negatieve perfectum.

Verwerving van de woordvolgordeconstructie

De taak voor de groep-1 kinderen betrof perceptie van woordvolgorde in termen van de drie mogelijke woordvolgorde-patronen in het Tarifit: SVO, VSO en OVS. De voorgelegde zinnen bestonden uit drie lexicale items, dat wil zeggen twee substantiva en een verbum. Zinnen in OVS-volgorde hebben een extra morfeem, het werkwoordssuffix *-it*, dat verwijst naar het nominale object in initiële positie. De taak werd uitgevoerd als een receptieve taak aan de hand van een platenboek.

De kerngroep in Nederland scoorde het beste bij SVO-zinnen, met een correctscore van 66%, gevolgd door VSO-zinnen met 56% correct en OVS-zinnen met 53% correct. De referentiegroep in Marokko scoorde het beste bij OVS-zinnen met een correctscore van 93%, gevolgd door SVO-zinnen met een correctscore van 83% en VSO-zinnen met 78% van de antwoorden correct.

De meest frequente receptieve fouten van de kerngroep waren een gevolg van het hanteren van het object als was het het subject, dat wil zeggen SVO en VSO werden respectievelijk geïnterpreteerd als OVS en VOS. Gemeenschappelijk in de interpretaties van de kinderen van deze twee woordvolgordes (SVO, VSO) is dat het substantivum dat als subject bedoeld is, de laatste positie inneemt. Het is moeilijk om een reden voor dit gedrag te vinden op basis van woordvolgorde.

De situatie is heel anders met betrekking tot de OVS-zinnen die als SVO-zinnen geïnterpreteerd worden door de subjectfunctie aan het eerste substantivum toe te kennen. Kinderen die dat deden, misten de functie van het gebonden morfeem *-it*, dat als suffix aan het verbum wordt toegevoegd en dat verwijst naar het substantivum in de eerste positie, daarmee aangevend dat dit het object is. Dit wordt geïnterpreteerd als een indicatie voor gebrek aan grammaticale kennis omtrent de functie van het gebonden morfeem in OVS-zinnen. Als algemene assumptie is het waarschijnlijk dat de kinderen van de kerngroep andere eigenschappen dan woordvolgorde hebben gebruikt in hun verwerking van de zinnen. Er is al eerder vastgesteld dat in talen met een variabele woordvolgorde, zoals het Tarifit, woordvolgorde een relatief zwakke eigenschap vormt voor subjectherkenning. Andere eigenschappen zoals subject-verbum-overeenstemming of morfologische eigenschappen zijn efficiënter bij het interpreteren van zinnen (Su, 2001). In deze zin kunnen de kinderen in de taak twee inherente eigenschappen gebruikt hebben, namelijk animacy in het contrast tussen mens en dier, en status in het contrast tussen vader/moeder en zoon/dochter of tussen volwassen en niet-volwassen.

De woordvolgorde-constructietaak voor groep-8 kinderen is gebaseerd op twee typen vragen die gebruikt werden om drie verschillende typen woordvolgorde uit te lokken. Vragen van type 1, geformuleerd als *min itteg X?* (wat is X aan het doen?) waren bedoeld om de volgorde SVO of VSO te eliciteren. Vragen van type 2, geformuleerd als *X, min das igga Y?* (X, wat deed Y hem/haar?), zouden moeten resulteren in OVS-volgorde. De antwoorden

die gegeven werden, werden niet gecategoriseerd als goed of fout, maar geëvalueerd op basis van de uitkomsten bij de referentiegroep in Marokko.

Wat de vragen van type 1 betreft, 89% daarvan resulteerde bij de referentiegroep in SVO-volgorde en 11% in OVS. Bij de kerngroep leidde 97% van de antwoorden tot een SVO-volgorde, 2% tot OVS en 1% tot VSO. Verschillen tussen de twee groepen deden zich vooral voor bij type 2. Van de antwoorden van de referentiegroep was 62% in de vorm van OVS, 37% in SVO-volgorde en 1% in OVS-volgorde. Bij de kerngroep bestond 32% van de antwoorden uit OVS-zinnen, 67% uit SVO-zinnen en 1% uit VSO-zinnen.

De tweede onderzoeksvraag in deze studie had betrekking op de verwerving van woordvolgordepatronen. Meer dan de helft van de groep-1 kinderen in Nederland slaagde erin het verschil te realiseren tussen de drie typen woordvolgorde in het Tarifit, dat wil zeggen tussen SVO, VSO en OVS. Tegelijkertijd waren veel kinderen niet in staat onderscheid te maken tussen de drie types woordvolgorde, soms door het laatste substantief als subject aan te duiden bij SVO- en VSO-zinnen, in andere gevallen door het eerste substantief aan te duiden als subject in OVS-zinnen.

Wat de kinderen in groep 8 betreft, de meerderheid van de referentiegroep in Nederland sloot goed aan bij de referentiegroep in Marokko in het produceren van verschillende types woordvolgorde, vooral met betrekking tot SVO en VSO, maar niet in het geval van OVS. SVO is de voorkeursvolgorde van de kinderen in Nederland, ongeacht het type vraag. Toch is het de vraag waarom de VSO-volgorde niet gebruikt wordt, vooral niet door de referentiegroep in Marokko, gegeven het feit dat het Berber over het algemeen gezien wordt als een VSO-taal. Eenzelfde trend werd gevonden door El Aissati (2002) bij teenagers in Nederland en Marokko, gebaseerd op een semi-spontane dataverzameling waarin zinnen met een SVO-volgorde het meest frequent waren, gevolgd door VSO. Dit leidt tot de veronderstelling dat er een proces van taalverandering plaats in het Tarifit vindt ten gunste van de SVO-volgorde en ten koste van de VSO-volgorde.

Conclusies

Deze studie heeft antwoord gegeven op de twee belangrijkste vragen uit dit onderzoek. De vaardigheid van de kinderen in het Tarifit wordt gekenmerkt door ups en downs, afhankelijk van het type morfologische structuren. Sommige problemen lijken ook bij oudere kinderen nog te bestaan, zoals casusmarkering en de vorm van het negatief perfectum. Wat woordvolgorde betreft is de SVO-volgorde de meest geprefereerde, terwijl de standaard VSO-volgorde afwezig was, zelfs bij de kinderen in Marokko. Aan het eind van dit onderzoek rijzen ook andere kwesties die vragen om verder onderzoek. Waarom bijvoorbeeld ziet de taalvaardigheid in het Tarifit van de kinderen in Nederland er zo uit zoals gevonden is? Waarom worden sommige grammaticale aspecten eerder verworven dan andere? Waarom worden sommige aspecten helemaal niet verworven, zoals bijvoorbeeld casusmarkering of de negatieve vorm van het perfectum? Wat maakt het verschil uit bij het verwerven van affixen, prefixen en infixen? Wordt suffixatie altijd eerder verworven dan prefixatie en infixatie? En als dat zo is, is dat typisch voor het Tarifit of Berber, of is dat een algemeen verschijnsel?

STUDI

Few peop
do human
speak by themselves without any explicit guidance, transcending both their limited experience and biological limitations? How is it possible that a child is capable of learning any language, or even more than one language easily? It is this miraculous nature of language acquisition which is the topic of this study

Children of minority groups in the Netherlands do not reach native-like mastery in the language of their parents or their primary home language. The proficiency of these children seems to deviate from established norms of native speakers in the country of origin. Deviations from such norms implicitly refer to inaccurate or incorrect grammatical output. Such deviations can be temporary, related to a slow-down in the order of acquisition, or enduring and permanent as a result of incomplete acquisition.

After 40 years of migration, and at the time that the Moroccan community is counting its third generation, many questions emerge as to the process of Berber acquisition and status quo of proficiency of children in the Netherlands in comparison with their peers in Morocco. The outcome of this fascinating comparison is yet the beginning of a deeper understanding of the fascinating path of language acquisition in migration.

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